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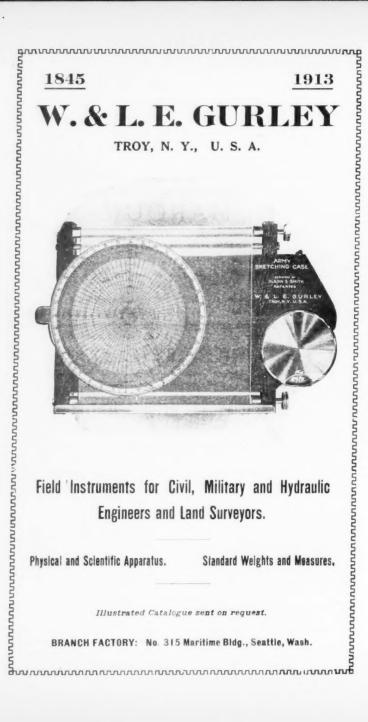
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P. 37.—Animadverts against reconnoitering squadrons marching too rapidly or making too long marches—as patrols must march faster and farther thereby ruining horses unnecessarily.

P. 42.—Gives the instructions necessary for patrols.

P. 68.—The independent cavalry during a battle "should rather strive with all energy to echelon itself in advance of the wing of its own army and to maintain itself on the flank."

P. 72.—In addition to officers carrying good field glasses he says "The scissors telescope, which no higher cavalry leader should be without, should also be used for reconnaissance on the battlefield."

"Patrol service during the battle itself is a matter for the infantry, and can be carried out by no other troops."

Pp. 80-81.—With large forces owing to the long range of modern guns "In a battle of encounter, deployment should take place, at the latest when still five miles from the enemy."

P. 92.—He says: "During the night, when it is not possible to occupy advanced areas, the divisional cavalry should try to assist the screen by being so disposed that detached posts will lie on the main road in advance of the infantry outposts."

Comment.—I do not agree with this statement—unless in an emergency divisional cavalry should always bivouac in rear of the infantry outposts so as to save the horses. This is said to have been one of the mistakes made in the early days of our Civil War.

Remarks on Raids:

Pp. 92-101.—Important, but American cavalry officers will obtain all necessary information at first hand by studying the campaigns of the Civil War, 1861-65.

P. 103.—Speaking of large masses in action he says: "On our maneuver grounds, the charge on horseback is always the order of the day, even against artillery or machine guns. The umpires continually allow such attacks to succeed." "In real war," P. 104, it is different, * * * * * again and again (in 1870–71) was it necessary to detail infantry to the cavalry divisions."

Comment.—The composition and action of the Union cavalry in 1863 at Brandy Station, Aldie, etc., show the proper organization and method of attack for a large cavalry command.

P. 121.—Speaking of the charge, he says: "Frederick the Great, in order to obtain the greatest possible cohesion, finally abolished all intervals between the tactical units and required the knee to knee riding." He also says: "Frederick would never allow the enemy's cavalry to be attacked without a second line following the first."

Comment.—For a charge against formed cavalry this is equally essential in our service.

P. 127.—When charging cavalry the Germans use the double rank formation, but to charge infantry General Von Bernhardi says: "It will usually be of no advantage to form the first line in two ranks." "It will be better, generally, that the leading line or lines should consist of one rank at quite loose intervals."

Comment.—The above is important on account of recent discussions in our service.

Pp. 134-141.—He shows the use of mobile and immobile horses. (The latter have insufficient men to hold them).

Pp. 173–174–175.—He disapproves of the bayonet for cavalry, and seems positive that cavalry should carry the rifle, lance and saber.

Comment.—The question of armament is of course important, personally I believe that our armament of rifle, pistol and saber, is the best. A bayonet which could be used as an intrenching tool would also be an advantage. Except in the

charge, the lance is useless. In future wars, it is more than probable that the charging line will be under fire and this fire would destroy the formation adopted. In such a case, it would seem that the lancer would soon fall a prey to our cavalry.

Pp. 192-193.—He speaks of the greater independence of

cavalry and therefore of the necessity of a Leader.

Comment.—Applied to our service it shows how necessary a Chief of Cavalry with proper rank is to the U. S. Cavalry.

P. 207.—Attacking infantry or artillery several lines are used. "A mean distance of about 250 pages (between the lines) would generally meet the case."

P. 213.—In case the enemy is beaten, emphasis is laid upon the necessity of a parrallel pursuit (e. g. Sheridan, 1865).

P. 220.—* * * * Emphasis is placed upon the necessity of depth formation for cavalry attacks. Echelon formations are not sufficient. Frederick always used two lines.

P. 227.—If echelons are used, troops "Must be echeloned forwards."

Training of Cavalry in Peace.

P. 249.—Necessity of good horsemen.

P. 258.—Remounts must be well trained. "Imperfectly balanced horses should on no account take their place in ranks." German horses are received in July. General Von Bernhardi says: "The (P. 260) actual breaking in of the horses should be completed by the end of February." He speaks of the necessity (P. 262) of cross country rides and says: "In these exercises more importance should be attached to scrambling than to jumping. Jumping, however, must also be diligently practiced, especially over wet and dry ditches."

P. 265.—"Recruits should be given the curb bit after Christmas."

P. 285.—"The cavalry officer of today requires a better general military education than any other officer."

P. 307.—At maneuvers, large numbers of umpires are recommended on account of the training of the officers. Also that flags are useful to represent companies, squadrons, etc.

P. 318.—"A mistaken idea prevails that horses in hard condition must be thin." Fat should of course be replaced by muscle.

P. 319.—"At drill, ceremonial only excepted, and for all practice in the use of weapons, all four reins should be held in one hand. It would also be well to lay down, once for all, that in all drills the men should sit down in the saddle at a trot, and that rising in the saddle at a trot should only be permitted on the march or during long evolutions in column, and then only when specially ordered. It is impossible to * * * * carry out evolutions in close formation when men rise in the saddle, as this leads to a looseness of formation dangerous in the presence of the enemy."

Comment.—Coming from a German the above merits consideration.

P. 322.—"Strict attention should be paid to the correct position of the horses which should have their noses down and backs arched." German Cavalry Inspectors notice these things.

P. 322.—"The reins should be quite loose, and turns or wheels affected by the balance of the rider independently of them."

Comment.—The above is correct in principle. Neither the men nor the horses in our cavalry have been sufficiently trained to do this.

P. 328.—"When attacking Infantry, the enemy's firing line if represented by real troops should be passed at a foot pace and the charge resumed against the hostile forces farther to the rear."

P. 334.—"Only on rare occasion should exercises be conducted by words of command and trumpet calls, but orders should be transmitted as in time of war."

Organization.

P. 351.—Cavalry is "Practically always obliged to act independently, field artillery, never."

P. 353.—Shows necessity of strong cavalry brigades. Recommends three regiments to a brigade. "A tripartite formation posseses undoubted advantages, etc."

P. 355.—For independent action, cavalry must be given the necessary transport organization.

P. 356.—"I have repeatedly stated that I consider our cavalry to be of itself too weak."

P. 357.—Recommends cyclists. A cyclist battalion to every army corps.

P. 358.—Recommends an adequate reserve of horses, corresponding to our own remount depots during the Civil War, except that here the horses must be trained.

P. 365.—The Inspector General of Cavalry (in our service Chief of Cavalry) must have an adequate staff. Recommends one chief of Staff, one other General Officer, two Aides-de-Camp, a Registar, and the necessary clerks.

CAVALRY IN FUTURE WARS.

P. 3.—"Introduction of compulsory service, and the consequent reduction in length of time spent by the soldier with the colors, have changed the character of almost all European Armies."

P. 5.—"The cavalry alone remains a specialized service,"

* * * * "It can scarcely count on having the wastage of war made good by equally trained men and horses."

P. 6.—"In spite of this * * * * the proportion of cavalry * * * * has steadily receded."

P. 16.—"Cn the other hand the strategical importance of the arm, as well as the scope of its duties, have increased very decidedly."

Pp. 19-20.—Does not recommend active use of cavalry during mobilization and concentration of the enemy.

P. 25.—"When the strategical concentration commences, after railroad movement is completed, reconnaissance becomes possible and important."

P. 31.—"Fundamentally the duty of the cavalry must be to seek to bring about collision with that of the enemy, so that from the very beginning it secures the ground between the two armies and that the actual and moral superiority between the two armies is obtained * * * * for our own cavalry."

P. 32.—"We must fight to reconnoiter and fight to screen."

P. 37.—"In the strategical handling of the cavalry, by far the greatest possibilities lie."

"For reconnaissance and screening, for operations against the enemy's communications, for the pursuit of a beaten enemy, and all similiar operations, * * * * the cavalry is and remains the principal arm."

- P. 42.—"We must therefore lay down as a principle that as much cavalry as possible is to be organized for strategical independence and as little as a expedient retained for infantry divisions."
- P. 47.—With reference to organization, it "Must be made so elastic that we can alter the strength of our units to meet the varying circumstances which may confront us."
- P. 60.—In addition to the use of the Arme Blanche, "The cavalry must in factle able to attack on foot exactly like infantry * * * *; but if it is to be handled in this spirit, then it will require to be very strongly provided with artillery."
- P. 65.—"The place of the responsible leader until the moment of the charge is therefore well to the front, in a position from which he can best overlook the situation as a whole. Even the leaders of independent units, if possible down to the regimental commanders should remain close to him * * * *.

 The greatest fault of all is to stick too close to your troops."

"Never should the Chief Commander take part personally until he puts in his last reserve." This does not apply of course when the necessity arises of setting a personal example.

- P. 66.—"If the commander falls, then his staff officer or adjutant assumes the responsibility until such time as the next senior can be notified."
- P. 68.—"The * * * * word of command should be limited to those units which it can actually control—namely the squadron."

Comment.—In our service, should the troops be increased to say 125 or 150 men, this limit would be the troop.

P. 69.—"The use of bugle calls must be restricted to the utmost, and only be permitted in circumstances where no possibility of misunderstanding can arise."

Comment.—This is excellent advice to our service where the trumpet is sometimes blown when it causes confusion. Squad-

ron and Regimental Commanders must have a suitable staff for the transmission of orders.

- P. 72.—"Reinforcements from the rear should always join their own regiments or brigades."
- P. 84.—At the proper time, "The last man and the last breath of his horse must be risked, and he who is not willing to stake his soul is no true cavalry soldier."
- P. 85.—After recommending that on the battlefield, the cavalry should seek a position on the flank of the army well forward, he discusses how it should be formed. He recommends that each division retain full space for deployment and room for maneuver.
- P. 88.—"When after long marches, hours of fighting, and heavy losses, the exhausted victor biovuacs on the hard won field and night falls, then the real work of the cavalry begins, then without drawing rein, the horseman must press forward to intercept the enemy's retreat, attack him where he least expects it, and harry him to utter exhaustion."
- P. 88.—In order to do this attention is invited to the necessity of giving opportunities to both men and horses to feed, water and rest when opportunity allows.
- P. 95.—When dismounted action is decided upon an adequate mounted reserve must be left with the led horses. "Immobile detachments are practically at the mercy of every mounted patrol."
- P. 96.—"In general, the reserve can be reduced in proportion to the weakness of the enemy's cavalry, and to the depth of the zone of security his patrols have been able to secure for him."
- P. 121.—"A uniform rate of advance, * * * * is an essential condition of complete security" * * * * "Hence it is advisable to work (patrols) in sections—that is to say, when they have reached certain points to withdraw them to the main body, and send out reliefs for the next section."
- P. 123.—The horses (in the days of Frederick and Napoleon) were much less well bred, (than today) and the commoner cold-blooded strain can stand bivouacs, cold and wet, much better than our present high bred material, although the latter stand heat and exertion very much better."

P. 123.—"When circumstances allow the bulk of the horses to take shelter behind the infantry outposts, the most must be made of the opportunity and only the more distant patrolling service be left to the cavalry." Attention is invited to the fact that by taking good care of the horses the cavalry when required "will be capable of exertions far beyond what could be expected of troops less thoughtfully managed."

P. 125.—"This tendency towards cantonments must not be allowed to become stereotyped. Occasions will constantly arise when cavalry must remain in immediate touch with the

enemy."

Comment.—The above is all true but no mention is made of the necessity of hardening the horses for field service by removing the blankets and allowing the hair to grow in cold weather prior to a campaign.

It would seem to be a good rule to take the best care of your horses possible under the circumstances—shelter them where possible but do not coddle them.

P. 130.—"Short rations reduce the horses very rapidly and only too thoroughly."

P. 132.—The distinction between reconnoitering and security patrols is plainly shown. In fact Chapter VIII on the subject of patrols, etc., is one of the most important in the book and also one of the best.

P. 142.—"As a general type three lines of patrols result, viz: strategical patrols far in advance, tactical patrols, and security patrols, which latter, when the main body is halted become the standing outposts."

P. 146.—Stress is also laid upon the use of cyclists.

P. 151.—He says: "That the difficulty of securing a supply of reinforcements adequate for the performance of our duties is greater with the cavalry than with any other arm."

P. 153.—He speaks of the "Absolute need for the numerical augmentation of this branch of the service" and (P. 154) also of the necessity of a home squadron for the purpose of supplying remounts.

Comment.—No provision is made in the United States as yet for filling up old regiments in time of war. This method

both with reference to men and horses in the cavalry is an essential as was shown during our Civil War.

General Von Bernhardi brings out very clearly the necessity for a proper organization in time of peace and maneuvers for the three arms together.

P. 170.—Necessity for a proper supply train is also dwelt upon.

P. 173.—But "It is not the number of wagons which concerns us, but their individual lightness and mobility, so that on all roads they can follow their units at a trot, and only in the case of divisional cavalry can the other point of view be admitted."

P. 173.—An emergency horse ration is also necessary. It should (P. 174) keep horses in condition for three or four days.

P. 175.—Collapsible boats are also recommended for independent cavalry. Also a wagon with bridging material.

P. 177.—He recommends a reduction of caliller of the carbine and a corresponding increase of ammunition. He adds "The desire to retain the same cartridge as the infantry to facilitate mutual assistance in ammunition supply seems to me of quite secondary importance."

Comment.—I cannot except this statement. In my opinion the results would not justify it.

P. 178.—Le recommends fifteen to twenty-five cyclists to a regiment of cavalry, also the addition of machine guns.

P. 179.—He also recommends a battery of four pieces of field artillery be assigned to each brigade of cavalry.

Pp. 184–185–186.—He shows the necessity for well trained men and horses—and gives some of the details of training them both. In cavalry inspections, he recommends (P. 191) individual inspection of man and horse, and inspection of closed masses be restricted as much as possible.

P. 194.—In case of war, he recommends some of the old well trained horses be left with the remount squadrons.

 $\mathrm{Pp},\ 203\text{--}4.$ —Some interesting experiments with feed for horses are given.

P. 208.—On German training, he says he has seen "Whole regiments cover 8,800 yards (five miles) at the regulation gallop,

and the horses at the end of it had still both strength and wind to increase the pace."

P. 211.—In order to harden the horses to the weight they must carry in war, he recommends gradually increasing the pack during the drill season, and "Horses should be prepared gradually for the full weight (P. 212) carried in the maneuvers."

P. 221.—He speaks also of the necessity when cavalry charges against cavalry of keeping well closed in. "Against infantry, the files must be loosened and every horse go in his normal stride as in hunting."

"Utmost speed consistent with closely locked files against cavalry; a natural extended gallop against infantry or artillery. These are the two cardinal points to be observed in attacking."

P. 230.—He speaks of the advantages of a Regimental Bugle Call.

Comment.—Bugle calls on the battlefield are of course seldom used. If our troops were trained to it, such a call would be of benefit to our service.

P. 234.—Artillery should be attacked from the flank if possible. Also "cnly *closed* lines on a broad front can be relied on for success." "Such frontal attacks require generally reserves on both flanks."

P. 247.—He speaks of the necessity for more training for dismounted cavalry action in the German Army.

P. 268.—Speaking of cavalry training, he says: "The first point which strikes one, and which lies at the bottom of all cavalry undertakings, but in which no real education e er takes place, is the conduct of patrols, and particularly of those employed for reconnoitering purposes."

P. 274.—He also enters a protest against the absurd misuse of maps in peace. He recognizes their use but claims they will not be available in war.

Comment.—The above is of course corrrect. In our service every cavalry non-commissioned officer should be able to make a rough sketch to submit with a report. Whenever practicable of course maps should be furnished.

ORGANIZATION AND EMPLOYMENT OF CAVALRY BRIGADES.*

BY CAPTAIN PAUL T. HAYNE, JR., TWELFTH CAVALRY.

A T the beginning of any campaign the commanding genera will have a limited amount of information as to the strength and location of the enemy's forces, but will be very anxious to get more. It is generally recognized that his main reliance for getting this information will be the independent cavalry, or cavalry brigades and divisions operating under the direct orders of the army commander.

Spies will be employed, but the exaggerated and inaccurate reports received by General McClellan during the Peninsular Campaign from the well organized Pinkerton detective agency are enough to convince anyone that the uncorroborated reports of spies are of very little value.

Aeroplanes and balloons will also be used to get information and undoubtedly will at times be of great value, but their possibilities are so uncertain, and they are so dependent upon the condition of the weather, that no one would think of depending on them alone.

If the enemy had no cavalry, this information, so urgently needed at the beginning of a campaign, might possibly be obtained by unsupported officers' patrols; but the enemy will almost surely have cavalry between the two armies, and to expect patrols to get through this cavalry, obtain information, and then evade the enemy's cavalry again in returning is expecting too much. The little information that did get back would probably arrive too late to be of much value.

The only way in which information can be obtained with certainty, and reach the army commander in time to be of

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value, is by sending out a body of cavalry sufficiently strong to defeat and drive back, or break through, the enemy's screening cavalry. As we never know exactly how great a force will be required to defeat the enemy's cavalry and get information as to his main forces in rear, the independent cavalry must be made strong as practicable, and it is given horse artillery to increase its fighting power.

This independent cavalry, with the getting of information as its mission, will by attacking the enemy's cavalry and driving it back furnish a considerable amount of protection to its own army; but it is generally accepted at the present time that other protective cavalry is also needed, though methods of furnishing it differ.

In the latter part of the War of the Rebellion, when the army commanders had been for some time learning in the most effective of all schools, actual experience in war, all the cavalry was united into divisions and corps operating under the direct orders of the army commander, detachments for protection being made when the bulk of the cavalry was so employed that such detachments were considered necessary. General Sherman, however, who made a study of organization in addition to having exceptional opportunities for observation throughout the war, recommends the assignment of a brigade of cavalry to each army corps of approximately 30,000 men, with a cavalry corps of three divisions for the army. (Memoirs, Vol. II, p. 385).

The assignment of cavalry to infantry divisions or corps, in addition to the cavalry acting under the direct orders of the army commander, is an accepted principle in the organization of practically all modern armies, and this "divisional cavalry" is expected to do most the work of protection or security, leaving the cavalry divisions free for reconnaissance or other duty which may cause them to be at considerable distances from the army.

In the organization of the British Expeditionary Force there are provided, in addition to the divisional cavalry (which is mounted infantry), two distinct bodies of cavalry acting directly under the orders of the army commander. The cavalry division, or independent cavalry, is charged with strate-

gical reconnaissance; and the "mounted brigades," composed of cavalry and mounted infantry with horse artillery, called "protective cavalry," are charged in general with the duties of security or protection. It is stated, however, in the British Field Service Regulations (par. 65) that circumstances may require that these two bodies be united. This division into three echelons seems wrong in principle. One body or echelon charged with the getting of information and another with protection is as much sub-division as the cavalry can stand without great danger of so much dispersion that neither mission can be accomplished if the enemy is aggressive. It is also difficult to see the advantage in deliberately organizing mounted infantry instead of cavalry. The cost of upkeep is just as great, so why not give the additional instructions and armament needed to make cavalry instead.

As the independent cavalry is almost sure to have to defeat the enemy's cavalry as a preliminary to accomplishing its mission of getting information, the greater part of its forces must be kept sufficiently concentrated to be used as one body in the expected contest. Hence, it is an accepted principle in reconnaissance by independent cavalry to have a central mass, though not necessarily on a single road, sending out from this mass contact squadrons or troops, each assigned a certain reconnaissance area or mission, and these in turn detach just enough patrols to reconnoiter the area or accomplish the mission assigned. In this way the number of detachments is kept at a minimum, and every detachment has a supporting body to back it up.

Even if the enemy is deficient in cavalry it is well to have the reconnoitering cavalry strong, for it can get information better, and may be able to sieze some important position and hold it, even against superior numbers, until the infantry of its own army can come up.

This is well illustrated by the work of General Buford's cavalry division just before the battle of Gettysburg. Stuart was on a raid around the Federal army, leaving Lee practically without cavalry. Buford, with two brigades of his division and his artillery, moved early on June 30th from his camp near Fairfield, via Emmittsburg, to Gettysburg. He arrived at

Gettysburg just as Pettigrew's infantry brigade was approaching the town, and he had sufficient force to drive it lack before it got a foothold. He sent in several valuable reports as to the position and movements of the enemy on June 30th and July 1st, and held his position at Gettysburg for more than two hours on the morning of July 1st against an attack by the infantry and artillery of Heth's Confederate division, until relieved by General Reynolds with Wadsworth's division of the First Corps. (R. R. 43, pp. 923–927.)

General Meade was still undecided on July 1st as to what his plans would be, and had already issued a tentative order for a withdrawal to the line of Pipe Creek in case the enemy took the offensive and a withdrawal seemed necessary. (R. R. 45, pp. 458-460). As a result of the work Buford's cavalry division the battle was fought at Gettysburg and the victory gained there is generally considered one of the most decisive of the war.

Another valuable service the reconnoitering cavalry can render, in addition to getting information, is in delaying the enemy's advance. Just before the Lattle of Murfreesloro, or Stone's River, when Rosecrans was advancing from Nashville against Bragg at Murfreesboro, General Wheeler's cavalry not only kept Bragg fully informed as to the movement, but also delayed Rosecrans to such an extent that it took him four days, from December 26th to December 29th, 1862, to move less than thirty miles, using several roads. (R. R. 29, pp. 184 and 663.)

While in general the mission of independent cavalry is reconnaissance, protection being only incidental, it may happen that its mission is to screen a movement of the army, rather than to get information. There are two general methods of accomplishing this, one or the other being applicable in most cases.

If some natural obstacle, such as a river or mountain range, is so situated that guarding the few practicable crossings will prevent the enemy's cavalry from getting information of the movement the so-called defensive screen is employed. The crossings or defiles are held and every precaution taken to prevent their being forced; strong bodies are held at favorable points, ready to move promptly to any threatened crossing.

When there is no natural obstacle to assist in stopping the enemy, recourse must generally be had to the offensive screen, the cavalry being held in a central mass ready to strike and defeat the enemy's cavalry as soon as its approach is reported by the reconnoitering squadrons or troops sent out to discover its advance. Having defeated the enemy's cavalry, touch withit must be maintaned and a sufficient force kept concentrated to prevent its taking the offensive successfully, while the roads are guarded to prevent small patrols from getting through.

Whether the plan for screening is offensive or defensive a fight with the enemy's cavalry, and possibly with his infantry, will result if he is at all agressive; the mission of screening includes fighting just as the mission of reconnaissance does.

That cavalry, well handled can screen, even against superior numbers, is proven by the action of Stuart's cavalry at the beginning of Lee's movement toward Gettysburg. Early in June, 1863, when General Lee was moving his army from Fredericksburg to Culpeper and from there to the Shenandoah Valley, preparatory to invading Maryland and Pennsylvania, he was naturally anxious to have the movement screened. A. P. Hill's corps, left at Fredericksburg, delayed the getting of positive information there as to the movement. (R. R. 45, p. 859) and Stuart's cavalry at Brandy Station, although attacked by Pleasonton with his cavalry corps and a brigade of infantry on June 9th screened the movement through Culpeper. (R. R. 43, p. 903). Ewell's corps arrived at Culpeper June 7th and started for the Valley June 10th (R. R. 44, p. 439). But Pleasonton reported on June 11th that Ewell was at Fredericksburg (R. R. 45, p. 62), and on June 12th he reported that he believed that the Confederates would make no move but remain on the defensive. (R. R. 45, p. 70).

While screening and reconnaissance are generally considered as distinct missions, requiring different methods for their accomplishment, it is seldom possible to draw a sharp line between them. In any particular case one or the other is the principal or most important mission of the cavalry. In order to screen, however, the cavalry must reconnoiter and is expected to report the information gained; while in carrying out aggressively a mission of reconnaissance a considerable amount of

screening is incidentally accomplished by keeping the enemy's cavalry occupied and defeating it and driving it back.

Whether the principal mission of the independent cavalry is reconnaissance or screening, there will certainly be a number of cavalry combats, and the cavalry which can establish its superiority over the opposing cavalry will have greatly facilitated all future reconnaissance or screening.

However, it will seldom or never be advisable to make the defeat of the enemy's cavalry the principal mission of the independent cavalry, for there are usually more important duties for the cavalry. Nor is it to be expected that the defeat of the enemy's cavalry will eliminate it entirely and give such a clear field to the independent cavalry as the German cavalry had in 1870 and 1871.

Partly as a result of the ill feeling between Sheridan and Meade, Sheridan was, in May 1864, given as his mission the defeat of Stuart's cavalry under the following orders:

Headquarters Army of the Potomac, May 8th, 1864—1:00 p. m.

General Sheridan,

Commanding Cavalry Corps:

The Major General Commanding directs you to immediately concentrate your available mounted force, and with your ammunition trains and such supply trains as are filled (exclusive of ambulances) proceed against the enemy's cavalry, and when your supplies are exhausted, proceed via Newmarket and Green Bay to Haxall's landing on the James River, there communicating with General Butler, procuring supplies and return to this army. Your dismounted men will be left with the train here.

A. A. Humphreys,

Major General, Chief of Staff.

(R. R. 68, p. 552.)

The "Richmond Raid" was the result of this order. The Confederate cavalry was defeated in four engagements and its commander, Stuart, killed, but the Confederate cavalry was by no means eliminated and continued to play an important

part until the end of the war, so it hardly established a precedent for such orders.

Sometimes reconnaissance as a principal mission may be combined with operations against the enemies lines of communications in rear of his army. The order for what is called Stuart's "Chickahominy Raid" illustrates this. The gaining of information was made one of the chief missions of the cavalry, and as General Lee had just taken command in the field and was contemplating bringing Jackson from the Shenandoah Valley to take the offensive, as he did in the "Seven Days Battles," it is evident that the getting of information was very important. But interference with the enemy's system of supply was also assigned as a mission. The order was:

HEADQUARTERS DOBB'S FARM, June 11, 1862.

General J. E. B. Stuart,

Commanding Cavalry:

GENERAL:-You are desired to make a scout movement to the rear of the enemy now posted on the Chickahominy, with a view of gaining intelligence of his operations, communications, etc., and of driving in his foraging parties and securing such grain, cattle, etc., for ourselves as you can make arrangements to have driven in. Another object is to destroy his wagon trains, said to be daily passing from the Piping Tree Road to his camp on the Chickahominy. The utmost vigilance on your part will be necessary to prevent any surprise to yourself, and the greatest caution must be practiced in keeping well in your front and flanks, reliable scouts to give you information. You will return as soon as the object of your expedition is accomplished; and you must bear constantly in mind, while endeavoring to execute the general purpose of your mission, not to hazard unnecessarily your command, or to attempt what your judgment may not approve, but be content to accomplish all the good you can, without feeling it necessary to obtain all that might be desired. I recommend that you take only such men and horses as can stand the expedition, and that you use every means in your power to save and cherish those you do take. You must leave sufficient cavalry here for the service

of this army, and remember that one of the chief objects of your expedition is to gain intelligence for the guidance of future movements.

Information received last evening, the points of which I sent you, leads me to infer that there is a stronger force on the enemy's right than was previously reported. A large body of infantry, as well as cavalry, was reported near the Central Railroad.

Should you find upon investigation, that the enemy is moving to his right, or is so strongly posted as to make your expedition inopportune, you will, after gaining all the information you can, resume your former position.

I am, with great respect, your obedient servant,

R. E. LEE, General.

(R. R. 14, p. 590).

That both missions were accomplished, is indicated by the following congratulatory order:

> Headquarters Department of Northern Virginia, June 23d, 1862.

General Orders, No. 74:

The commanding general announces with great satisfaction to the army, the brilliant exploit of Brigadier General J. E. B. Stuart, with part of the troops under his command. This gallant officer, with portions of the 1st, 4th and 9th Virginia cavalry, a part of Jeff Davis Legion, with whom were Boykin Rangers, and a section of Stuart's Horse Artillery, on the 13th, 14th and 15th of June, made a reconnaissance between the Pamunkey and Chickahominy Rivers, and succeeded in passing around the rear of the whole Union Army, routing the enemy in a series of skirmishes, taking a number of prisoners and destroying and capturing stores to a large amount. Having most successfully accomplished its object, the expedition recrossed the Chickahominy almost in the presence of the enemy, with the same coolness and address that marked every step of its progress, and with the loss of but one man, the lamented Captain Latane of the 9th Virginia Cavalry, who fell bravely leading a successful charge against a superior force of the enemy. In

announcing the signal success to the army, the general commanding takes pleasure in expressing his admiration of the courage and skill so conspicuously exhibited by the general and the officers and men under his command.

By Command of General Lee, R. H. CHILTON, A. A. G.

(R. R. 12, p. 1042.)

As to the advisability of sending cavalry in rear of the enemy's arm solely to operate against his lines of communication, opinion differ. The Germans do not favor such "raids" as is indicated by the following extracts from the German Regulations:

"Enterprises of long duration by large bodies of cavalry against the enemy's lines of communication separate them from their principal duties. Such raids are to be undertaken only when cavalry is redundant. Sufficient ammunition and supplies must be arranged for." (Par. 527).

"Attempts on the more distant hostile communications may produce valuable results; but they must not distract the cavalry from its true battle objectives. In the event of an engagement, cooperation with a view to victory must be the watchword of every formation, whether great or small." (Par. 395).

There is no doubt that this view is sustained by a number of raids during the War of the Rebellion, the cavalry being separated from its principle duties while engaged on several raids. It is generally conceded that Stuart's cavalry would have been of much more value to Lee in the Gettysburg campagin if it had stayed with the army instead of going on a raid. Sheridan's "Trevillian Raid" certainly accomplished nothing, and Wilson's raid the same month, June, 1864, accomplished very little, was accompanied by heavy losses and Wilson himself admits that it "ended in disaster." (Under the Old Flag, Vol. 1, p. 481).

Bernhardi disagrees with the German Regulations, saying: "The importance of such raids in modern war should not therefore, in my opinion, be underestimated. They are capable rather of exercising enormous influence on the course of events." And again, after explaining how dependent a modern army is on its supply, especially of ammunition, he says:

"I hold, therefore, that such circumstances render a disturbance of the rear communications of an army an important matter. It will often do the opponent more damage and contribute more to a favorable decision of arms than the intervention of a few cavalry divisions in the decisive battle itself."

(Cavalry in Future Wars, pp. 92-97).

It is to be noticed, however, that he mentions only the absence of the cavalry from the actual field of battle, giving Stuart in the Gettysburg campaign as an example of making a raid and still being present in the battle. Where cavalry is most needed, however, is in getting information before and in the first part of the battle, and Stuart was missing at just that time, his absence being generally considered an important factor in Lee's defeat. Stuart's arrival at Gettysburg the afternoon of July 2d, (R. R. 44, p. 697), when the battle had been going on for the greater part of two days, can hardly be said to atone for this absence.

But that the results obtained may sometimes justify the absence of the cavalry from the vicinity of the army and the risks involved, is illustrated by several successful raids in the War of the Relellion, from which practically all our information in regard to such expeditions comes.

In December, 1862, the destruction by Forrest of the railroad north of Jackson, Tenn., and by Van Dorn of the depot of supplies at Holly Springs, Miss., put a complete step to Grant's advance on Vicksburg, causing him to fall back to the Memphis and Charleston Railroad, to get supplies from Memphis. (R. R. 24, pp. 477, 481, 503, 592).

After the battle of Murfreesboro or Stone's River, December 30–31, 1862, the long delay that Rosecrans made before advancing was principally due to the raids made by Morgan's, Forrest's and Wheeler's cavalry against his communications. Rosecrans would not move until he could organize a mounted force strong enough to prevent these raids. (R. R. pp. 29, 34, 35).

In July, 1862, Forrest captured Murfreesboro, Tenn., with quantities of stores and destroyed the railroad in its vicinity

(R. R. 22, pp. 792–811), and a month later Morgan did the same thing at Gallatin, Tenn. (R. R. 22, pp. 348–357). The result of these two raids is shown by the report of the Commission ordered by S. O. 356, Headquarters of the Army, November 20th, 1862, "to investigate and report upon the operations of the army under the command of Major General D. C. Buell, U. S. V., in Kentucky and Tennessee," from which I will quote:

"We find that the rebels under Bragg concentrated at Chattanooga about the 22d of July, 1862, for the purpose of invading Kentucky. Prior to that, on the 11th day of June, General Buell with his Army of the Ohio, was ordered by General Halleck to march against Chattanooga, and take it, with the ulterior object of dislodging Kirby Smith and his rebel force from East Tennessee. We are of the opnion that General Buell had a force sufficient to accomplish the object if he could have marched promptly to Chattanooga. The plan of operation, however, prescribed by General Halleck, compelled General Buell to repair the Memphis and Charleston Railroad from Corinth to Decatur and put it in running order, as a line of supply during the advance. While that road proved of comparatively little service, the work forced such delays that a prompt march upon Chattanooga was impossible. The delays thus occasioned gave Bragg time to send numerous cavalry forces to operate against Buell's lines of supply. So successful were the incursions of the cavalry that no opportunity was found after the Memphis and Charleston Railroad was completed to Decatur, to concentrate enough of the Army of the Ohio to capture Chattanooga and execute the ulterior purpose of the expedition." (R. R. 22, p. 9).

With the telegraph and telephone facilities of the present day, it will be difficult to prevent the whereabouts of a raiding forces from being known, and correspondingly easy to order troops out promptly to cut it off. As a consequence a raiding force runs a big risk of being cut off and destroyed, or else very much demoralized by the forced marches it would make to avoid destruction. And it is very seldom that cavalry is not very much needed with the army to get information. This must be carefully considered and unless the probable damage to the enemy fully justifies both the risk taken and the absence

at least temporarily of the cavalry where it is always needed, getting information, raids against the enemy's lines of communication should not be ordered.

In operating in rear of the enemy, against his communications, the main dependence must be on secrecy and moving quickly, hence the force must be very mobile. But it must be also strong enough to overcome the guards it will certainly find protecting the enemy's communications and supplies. The strength of raiding forces in the War of the Rebellion varied from less than 1,000 to more than 10,000 which would indicate that the proper strength of a raiding force is variable, each case to be decided separately, according to the situation.

Our Cavalry Drill Regulations (Par. 856) give the release of prisoners as an object for cavalry raids. But the complete failure of the two great raids made for that purpose in the War of the Rebellion, Kilpatrick's raid to Richmind, February and March, 1864 (R. R. 60, p. 183), and Stoneman's raid to Macon, Ga., July and August, 1864, in which Stoneman and part of his command were themselves made prisoners (R. R. 76, pp. 264–5 and R. R. p. 914) hardly encourages such expeditions.

At the time of Napoleon the cavalry, as he used it, was expected to and did take a decisive part in most great battles. It was usually held in reserve until the crucial moment, and then charges by masses of cavalry often decided the day. The improvement in firearms has changed the method of employment and has to a certain extent lessened the importance of cavalry during a general engagement, but it can, undoubtedly, still play an important part.

Instead of being held in rear as a reserve, it should usually be on a flank, and in front. From this position it is able to meet promptly any turning or enveloping movement by the enemy, stopping or delaying such a movement until proper disposition can be made to meet it. It covers the outer flank of an enveloping or turning movement of its own army, repels any hostile cavalry, and operates against the hostile flank and rear.

Unless the enemy has no cavalry there will probably be a meeting of cavalry on the flanks of a great battle, and the cavalry which defeats decisively the opposing cavalry will then have a great chance for reconnaissance and operations against the enemy's flanks and rear. Hence, cavalry on a flank must take the offensive vigorously against any opposing cavalry, defeat and drive it in as promptly as possible, and then endeavor to damage the enemy and shake his morale in every possible way, especially by operating against his flank and rear.

Bernhardi says: "If cavalry can succeed, especially in battles of several days' duration, in interrupting the hostile supplies from the rear, in surprising the enemy's reserves with fire, causing him heavy losses and compelling him to deploy against it, or if any advancing portions of the enemy's army can be brought to a halt and prevented from reaching the battlefield at the right time, greater results will probably be obtained than by a doubtful charge. This is quite apart from the great moral impression which such action must produce on leaders and troops when the alarm suddenly re-echoes from the rear and the shrapnel of the cavalry carries confusion and consternation amongst the reserves and supports of the fighting line. The enemy's artillery, firing from covered positions, and otherwise so difficult to reach, may then fall a prey to a bold cavalry, and will offer opportunities for a success of far reaching importance. Such action must of course be conducted with a due cooperation between mounted and dismounted action." (Cavalry in War and Peace, p. 202).

Firearms were quite effective during the War of the Rebellion and the mounted charge against unbroken infantry was impossible then as now, but cavalry did effective work on the flanks during general engagements, both by mounted and dismounted action. The battles of Winchester and Nashville are excellent examples of such use of cavalry, both mounted and dismounted.

At the battle of Winchester, September 19th, 1864, the cavalry divisions of Merritt and Averell, under Torbert, operated on the right flank of Sheridan's army and their work is described as follows by Sheridan:

"To confront Torlert, Patton's brigade of infantry and some of Fitshugh Lee's cavalry had been left back by Breckenridge, but with Averell on the west side of the Valley pike and Merritt on the east, Torbert began to drive this opposing force towards Winchester the moment he struck it near Stephenson's depot, keeping it on the go till it reached the position held by Breckenridge, where it endeavored to make a stand.

"The ground which Breckenridge was holding was open, and offered an opportunity such as seldom had been presented during the war for a mounted attack, and Torkert was not slow to take advantage of it. The instant Merritt's division could be formed for the charge it went at Breckenridge's infantry and Fitzhugh Lee's cavalry with such momentum as to break the confederate left, just as Averell was passing around it. Merritt's brigades, led by Custer, Lowell and Devin, met from the start with pronounced success, and with saber and pistol in hand literally rode down a battery of five guns and took about 1,200 prisoners."

* * * * * *

"Early tried hard to stem the tide, but soon Torbert's cavalry began passing around his left flank, and as Crook, Emory and Wright attacked in front, panic took possession of the enemy, his troops, now fugitives and stragglers, seeking escape into and through Winchester." (Memoirs, Vol. II, p. 26).

At the battle of Nashville, December 14-15, 1864, Wilson's cavalry corps was on the right flank of General Thomas' enveloping attack and finally got in rear of the enemy's left. The finale of this is thus described by Colonel Henry Stone of General Thomas' staff, an eye witness:

"Hatch's division of cavalry, dismounted had also pushed its way through the woods, and had gained the teps of two hills, that commanded the rear of the enemy's works. Here, with increditable labor, they had dragged, by hand, two pieces of artillery, and just as McMillen began his charge, these opened on the hill where Bate was, up the opposite slope of which the infantry were scrambling. At the same same time Coon's brigade of Hatch's (cavalry) division with resounding cheers charged upon the enemy and poured such volleys of musketry from their repeating rifles as I have never heard equalled. Thus beset on both sides, Bate's people broke out of the works, and ran down the hill toward their right and rear as fast as their

legs would carry them." (B. and L. of the Civil War, Vol. IV, p. 463).

Cavalry on the flank during a general engagement is also in the most suitable position to take up the pursuit on a road parallel to the enemy's line of retreat, or to cover the retreat of its own army. This is an additional reason why its use as a

reserve in rear of the line should be very exceptional.

The mobility of cavalry and horse artillery make itself evident that they are the arms to make an effective pursuit after a victory, and all armies of the present day contemplate this use of their cavalry divisions. Unless the defeated army is completely demoralized, little will be accomplished by a pursuit by the cavalry directly in rear of the retreating army, for such a pursuit can be stopped by a comparatively small rear guard. But by keeping in touch with the retreating enemy, both in rear and on the flanks, so his line of retreat is known, and at the same time moving with the bulk of the cavalry on a parallel road to block his retreat at some defile or other favorable place, great results may be obtained, especially if some of the infantry is able to keep up a pursuit directly in rear.

While this use of the cavalry is so logical, it is principally by figuring on the results that would have been obtained if the cavalry had been used in this manner that we arrive at the conclusion that it would be a very effective use of cavalry. There were no such effective pursuits during the War of the Rebellion unless the pursuit after the fall of Richmond and Petersburg is counted and its end was a foregone conclusion any way. And there were no such pursuits in the Franco-German War.

As to covering a retreat the German Regulations give the following:

"Should the issue of the battle prove unfavorable, the cavalry must strain every nerve to facilitate the retreat of the other arms. It is just in such cases that they must assume a relentless offensive. Repeated attacks on the flanks of the pursuing troops will produce the best results.

"Even temporary relief for the retreating infantry and a short gain in time, may avert utter defeat. The cavalry which effects this, will, though it gains no victory, retain the honors of

the day." (Par. 518.)

Bernhardi says that here all the essentials are set forth in compressed form and adds:

"Continual effort must be made to confront the enemy, and to attack him whenever possible with the cold steel. Defensive fire tactics, however, will of course be employed whenever circumstances demand such action."

The Union pursuit after Shiloh was stopped by Forrest's cavalry taking the offensive, making a mounted charge just as Bernhardi suggests. General Sherman, who commanded the pursuing column, composed of cavalry, infantry, and field artillery, describes this charge and its effect in his report as follows:

"The enemy's cavalry came down boldly at a charge, led by General Forrest, in person, breaking through our line of skirmishers; when the regiment of infantry, without cause, broke, threw away their muskets and fled. The ground was admirably adapted for a defense of infantry against cavalry, being miry and covered with fallen timber.

"As the regiment of infantry broke, Dickey's cavalry began to discharge their carbines, and fell into disorder. I instantly sent orders to the rear brigade to form line of battle, which was promptly executed. The broken infantry and cavalry rallied on this line, and as the enemy's came to it, our cavalry in turn charged and drove them from the field. * * *

"The check sustained by us at the fallen timber delayed our advance, so that night came upon us before the wounded were provided for and the dead buried, and our troops being fagged out by three days hard fighting, exposure and privation, I ordered them back to their camps, where they are now." (R. R. 10, p. 639).

This ended the only attempt to pursue after Shiloh. A single charge over unfavorable ground, stopped all pursuit and solved the problem of covering the retreat, although the charging cavalry was eventually stopped and driven from the field.

General Forrest proved conclusively that a bold charge at the right moment may put a complete stop to the enemy's pursuit after a defeat; but often dismounted fire action can more effectively cover a retreat. To make use of the nearest suitable position, cause as much delay as practicable by fire from rifles and horse artillery, then mount and fall back rapidly to another position would in many cases cause the pursuers enough delay to let the infantry get well on the road. General Wilson, who commanded the pursuing Union cavalry after the battle of Nashville, gives the following description of such action by the Confederate cavalry covering Hood's retreat:

"Hatch's column had not gone more than two miles when its advance, under Colonel Spalding, ecountered Chalmer's cavalry strongly posted across the road behind a fence rail barricade. The gallant Confederates were driven in turn from every fresh position taken up by them, and the running fight was kept up till near midnight. Chalmers had, however, done the work cut out for him gallantly and well. He was overborne and driven back, it is true, but the delay which he forced upon the Federal cavalry by the stand he had made was sufficient to enable the Confederate infantry to sweep by the danger point that night, to improvise a rear guard, and to make good their retreat the next day." (B. and L. of the Civil War, Vol. IV, p. 469).

The commander of the cavalry must be prepared to use both mounted and dismounted action, and his success in covering the retreat will be to a great extent, depend on his good judgment in deciding which to use at a given moment, and in combining mounted and dismounted action to the best advantage. He must be prepared to sacrifice his command if necessary to prevent the destruction of the retreating army.

In determining the organization of the independent cavalry which is expected to perform the various duties mentioned, acting under the direct orders of the army commander, the first point to consider is the strength of the body of cavalry that will in most cases operate as a distinct command, complete in itself, with all the necessary auxiliary troops. In the organization of the infantry of our army the division, of three brigades, is considered such a unit and is furnished with all the auxiliary troops and trains that it would ordinarily need, either to act as part of a field army or detached, without calling on higher authority for anything.

European armies follow more or less closely the German organization, in which the cavalry division is the unit organized for independent operations. The German cavalry division is organized as follows:

The eskadron has 180 officers and men. The regiment has 4 eskadrons and an additional depot eskadron which does not accompany it in the field, total strength with the regiment in field about 800 with 19 wagons and 2 pack horses carrying supplies and telegraph and bridge material. The brigade has 2 regiments, total strength about 1,600. The division has 3 brigades of cavalry about 4,800; 2 batteries of horse artillery, 12 guns; 1 machine gun battery, 6 guns; a detachment of engineers and a light ammunition column.

Supply columns of 4-horse wagons may be attached to the cavalry under orders from army headquarters, but in most cases it is expected to depend upon the resources of the country, forming supply columns of requisitioned wagons.

Bernhardi recommends increasing the German cavalry division from 6 to 9 regiments by addding a regiment to each brigade, with 3 instead of 2 batteries. This would give the division 7,200 cavalrymen, with the same auxiliary troops, increased by 1 battery. He says this three unit formation facilitates tactical dispositions and the detachment of reserves. He also recommends that cavalry divisions be provided with the necessary supply and transport service, consisting of motor and wagon columns. (Cavalry in War and Peace, p. 355).

Several of these divisions may be united under one commander, or detachments made from the divisions, but the division is the basic unit of organization of the Army Cavalry.

The cavalry division of the British Expeditionary Force is organized as follows: The regiment has 3 squadrons and a machine gun section, 532 officers and men, with 27 vehicles. The brigade has 3 regiments, 1,613 officers and men. The division has 4 cavalry brigades, 6,452 officers and men; 2 horse artillery brigades, 24 guns; 4 field troops of engineers; 1 wireless telegraph company; 1 transport and supply column, 75 wagons and 11 carts; and 4 ambulances.

The strength of the Union cavalry divisions during the War of the Rebellion varied greatly, and the strength actually

present for duty equipped was seldom more than half and often less than one-third of the total strength. The average strength of the cavalry divisions at the battle of Gettysburg was about 4,000, each division having either two or three brigades with two to four batteries of horse artillery, three of these divisions being united to form the cavalry corps. (R. R. 43, p. 154). The strength and organization was about the same when Sheridan took command of the Cavalry Corps, April, 1864. (R. R. 60, p. 1036).

In the Confederate army the strength of the cavalry divisions varied even more than in the Union army. Each cavalryman furnished his own mount, and when his horse became disabled the trooper was given pass to go home and get another. The result was that an enormous proportion of the command was continually absent. (Campaign of Stuart's Cavalry, McClellan, p. 257). In the Gettysburg campaign Stuart had a cavalry division composed of six brigades with six batteries of horse artillery; its strength was not reported. (R. R. 44, p. 290). Soon after Gettysburg the cavalry was organized into a corps of two divisions, each division having three brigades. On March 20, 1864, the strength of Hampton's division was 3,370, Lee's division 1,431. (R.R. 60, p. 1234). Just one month later the strength of Hampton's division was 3,235, Lee's division 5,309. (R. R. 60, p. 1298.)

If General Stuart found it more difficult to handle six brigades than two divisions, as is indicated by his adopting the corps organization after Gettysburg, it is reasonable to suppose that future cavalry generals will also do well to have a small number of units to handle.

Sherman says in his Memoirs: "In war, three regiments would compose a good brigade, three brigades a division, and three divisions a strong cavalry corps such as was formed and fought by Generals Sheridan and Wilson during the war." (p. 384).

Practically all authorities agree on the general proposition that three regiments to a brigade and three brigades to a division is the best organization, and only very good reasons would justify adopting any other organization. Such an organization gives each commander a convenient number of

units to handle, and enables him to detach one unit without being left, in effect, without a command.

A brigade of three regiments as prescribed in our Field Service Regulations would have a total strength of 3,600 officers and men, if every man and horse were present, and it is to be expected that they will habitually have less than their maximum strength even with a well planed system for supplying remounts and recruits.

Hence to make the brigade of three regiments a complete unit with auxiliary troops and an administrative staff, would give us a unit smaller than the cavalry division which was the unit in the War of the Rebellion and smaller than the cavalry division of foreign armies. And to put more than three regiments in the brigade would give the brigade commander too many units to control, without any appreciable advantages over combining instead two or three of these brigades into a division and giving the division the auxiliary troops.

The efficiency of the cavalry in the War of the Rebellion was greatly increased by concentration; in fact its dispersion in small commands is blamed for the small results obtained by the Union cavalry in the first part of the war, hence to make the division the complete unit would facilitate the use that got the best results.

The organization of the division should be such that it could detach a brigade whenever necessary, giving it such auxiliary troops as its mission might require, usually horse artillery only, but on occasions as complete an organization, on a smaller scale, as the division itself has. The amount of horse artillery attached to a brigade for detached service would vary from a battery to a battalion, depending on circumstances.

As to auxiliary troops, assigned to the division, Par. 7, Field Service Regulations, prescribes the following:

1 regiment of horse artillery;

1 pioneer battalion of engineers (mounted).

1 field battalion of signal troops.

2 ambulance companies.

2 field hospitals.

1 ammunition train.

1 supply train (including Sanitary reserve).

2 or more pack trains.

A light bridge train is attached when necessary.

A light bridge train should be permanently assigned to the cavalry division instead of being attached when necessary, as prescribed in the Field Service Regulations. The Germans, as has been mentioned, have two wagons of bridge material with each regiment; Bernhardi, however, recommends a bridge train for the division instead. (Cavalry in Future Wars, p. 175). The commander of the cavalry division should not have to call on higher authority every time he thinks he may have to bridge a stream, for the bridging of streams will often be necessary and the necessity cannot always be forseen.

One field company of signal troops instead of a battalion should be sufficient for a cavalry division. The second company with an infantry division is expected to keep up communication with field army headquarters, but this will not be necessary with a cavalry division for the communication with army headquarters will necessarily be by wireless only and a wireless outfit will be available at field army headquarters without any detachment from the division.

With these exceptions the assignment of auxiliary troops and trains seems well adapted to probable needs. While it would be desirable to reduce the number of wagons with the cavalry division in order to increase its mobility it is essential that a cavalry division have both a supply train and an ammunition train. When necessary these can be left back with the trains of the nearest infantry divisions. The cavalry will do a great deal of its fighting dismounted, using rifle and artillery fire, and the ammunition expended must be replaced promptly or mobility is lost to a much greater extent than by having the necessary wagons.

The same principle applies to rations and forage. While the main dependence will be on supplies collected in the country, mobility would in many cases be sacrificed if the sole dependence were on this. It has been mentioned that Bernhardi recommends giving the cavalry divisions supply columns, and . Von Schellendorf says: "It is, therefore, absolutely essential

that the German cavalry divisions should be alloted supply columns of their own in the organization for war, as is done in Austria and Italy." (Duties of the General Staff, p. 284).

In April, 1864, when every effort was being made to reduce transportation to a minimum General Ingalls, Chief Quartermaster of the Army of the Potomac in a memorandum submitted to General Meade allowed 600 wagons for the supply of the cavalry corps, estimated at 15,000 men. (R. R. 60, p. 853). This is about the same as the allowance now prescribed although the expenditure of ammunition has greatly increased, requiring more ammunition wagons.

While the decision should be the basis of organization of the independent cavalry in war, and as a consequence in peace; the actual concentration in peace of a cavalry division for maneuver and instruction would hardly be necessary. Better results would be obtained by concentrating brigades with the necessary auxiliary troops and letting them operate against each other as part of a real or imaginary army. In this way each regiment would get more instruction in the duties of reconnaissance.

WHY THE PISTOL?

BY CAPTAIN J. M. MUNRO, THIRD CAVALRY.

AD it not been for Captain Hawkins' article "The Question of the Pistol," which appeared in the July issue of the Cavalry Journal the somewhat badly arranged and incoherent thoughts which follow would no doubt never have been put on paper, though they have been simmering in my mind for some time. Captain Hawkins' article, however, gives me hope that something may yet be accomplished for the despised pistol.

Captain Hawkins has most ably answered the stock arguments against the retention of the pistol with one exception, and that he barely touches on in the third paragraph from the end of his article, where he says he is not prepared to admit that it is more difficult to acquire proficiency with the pistol than with the saber or the lance. Before I get through with this effort I hope to show Captain Hawkins and other readers of the CAVALRY JOURNAL that of all the weapons we carry, the pistol is the most easily handled and proficiency with it more easily acquired and more easily retained than with any of the others. The point made by many of those opposed to the retention of the pistol is that, though we have been using the arm for years, we have made little or no progress with it and that proficiency with it for the mounted soldier is out of the question except in a few individual cases.

There is what I believe to be a dangerous tendency today throughout the service to belittle target practice and to frown on competitions and any enthusiasm on the subject of markmanship. This I believe is to some extent due to our tendency to adopt the methods of foreign armies—cavalry reorganization, for example—and to forget some important considerations regarding our own army. Too many young officers today are saying "Target practice is simply a bore to me; I can't get up

any enthusiasm about it and I think the thing is being run into the ground." You will meet officers, and many of them, who say that the result does not warrant the expense; others who contend that modern conditions render target practice no longer necessary, and so on clear up to the fellow who can prove to you mathematically that an organization of 100 poor shots are far more efficitive than an organization of 100 expert rifle men. Of course he calls the poor shots "average shots," but when you get right down to what he means by "average shots" you find that "poor shots" is the proper designation. Finally there is the man who points to the great foreign armies whom we study and try to imitate and tells you that they not only devote very little time to target practice, but do not believe in it. Among our older officers who will argue with you against so much attention to target practice you will find, if you continue the conversation, that they will finally wind up with some such remark as this: "Well, you know, in all the years that I shot with my troop I was never able to qualify better than marksman and it took me five seasons to do that." Naturally these officers do not enthuse over target practice. The reason that so many officers and men fail to make progress in markmanship is that they leave their training till they arrive on the target range. No one yet ever learned to shoot on the target range. Now this is not intended as a homily on target practice in general but it is deemed necessary to properly appreciate what follows.

The opponents of target practice as it now exists in our service have directed their main attack at the pistol and their principal contention is that it is not used by foreign armies. Foreign armies do not believe in pistols neither do they believe in spending time or ammunition on rifle practice. Why not? For the very same reason that you and I do not believe in the use of private cars. We can't afford it. Suppose Germany or Japan should attempt to give their soldiers the same course in target practice for one season that we give to ours, what would it mean? Bankruptcy! It doesn't cost anything to practice with the lance, sabre, or bayonet, consequently they are strong for those arms. Doubtless they would be highly delighted could they persuade us of the extravagance and inutility of

individual skill with firearms, and they seem to have succeeded in some cases. Now we have a pitifully small military force; some of us are so cowardly as to think it too small for safety, but we must have some points of supremacy, man for man, for we are constantly assured that we can lick the whey out of the wide world should the said wide world have the temerity to tackle us. What are these superior qualifications in our favor? We are not swordsmen, there can be no dispute as to that. But we have the supremacy in rifle practice and there is no dispute as to that, either. We have also supremacy with the revolver. Poor as we deem our performance with the pistol mounted, if compared with the pistol shooting of soldiers who have no practice, who have not even pistols, it would doubtless seem little short of marvellous. Since we have then the supremacy with two arms out of three, let us maintain this supremacy and at the same time strive for supremacy with the saber. To those who contend that pistols should be issued only to men who become expert in their use I say, apply the same system to the saber and there would not be a dozen sabers issued to the entire cavalry service.

Is our mounted practice with the pistol such a poor performance after all? I think not. The possible for the mounted course is 80 points. Approximately half of any troop where the men are not all in their first season make better than 25 points. While this is not an excellent performance by any means, it would mean fairly effective work when applied to an enemy having no pistols. But the encouraging thing about it is that this can all be vastly improved if proper methods are used and more demanded of the mounted service in the line of pistol shooting. The trouble nowis that not one officer in ten cares what his troop makes at mounted practice and he is encouraged in this by those who claim that the pistol should be discarded and that results mounted cannot be obtained anyhow.

Pistols are issued to our cavalry for use mounted, or so I have always conceived it, and yet, the prescribed course is arranged as if it were the intention for the cavalryman, whenever he had occasion to use his pistol to dismount to fight on foot. Of the 180 rounds allowed for target practice 105 are prescribed for the dismounted course and only 75 for the mounted course.

If the amounts prescribed in each case were reversed it would be more logical. Again, the cavalryman in order to qualify as a Pistol Expert must make 368 points, more than 300 of which he must make dismounted. There is absolutely no analogy between skill with the pistol mounted and skill with the same weapon dismounted, except, of course, in the case of the few individuals who "shoot from the hip," as it is called. Such men, however, are not target shots. Generally speaking, the principles underlying mounted and dismounted pistol practice are totally different and when I stated that I hoped to show that skill with the pistol was easier to acquire and retain than skill with any other arm we carry, I referred to the use of the weapon mounted. Proficiency with the pistol as a target weapon requires long and careful training and is quickly lost. It is governed by many of the same principles as tifle shooting. Skill with the saber is an even more strenuous matter and requires constant practice against skillful opponents, otherwise the art is lost. Skill with the pistol mounted requires no severe course of training and once acquired is not easily lost and is quickly recovered, as it depends on a single simple principle.

In the following discussion, which I hope to make clear, I wish it understood that I am annunciating no new principle or that I have discovered something new. This principle was thoroughly understood by all enlisted men and used in the days when mounted pistol practice was a part of every Department competition. This is another argument for the maintainance of competitions. The art of mounted pistol shooting has simply been temporarily forgotten.

The reason that anyone of us cannot pick up a pistol and make practically a possible number of hits from a galloping horse is that a sense is lying dormant in us waiting development and training. I shall call this the sense of "accurate direction."

When I was a small boy the 22 cal. rifle was not the cheap and easily available toy that it is today and it was just as much within my reach as the private car previously mentioned now is. Necessity, however, knows no law, and, with many of my boy companions, I fell back on the most easily available and effective weapon, the catapult, or sling shot. Doubtless many of you who were not reared in a large city with

an active police force have enjoyed many hours with this simple device. Doubtless you likewise acquired a skill with it that made the inhabitants of your immediate neighborhood rise up and call you cursed. They did in my case. After many experiments and much thought I eventually developed a catapult, that, by the use of indirect fire would throw a .00 buckshot about 400 yards. At ranges from twenty-five to forty yards anything the size of a meadowlark stood very little show for its life. At 50 to 100 yards dogs, calves and similar targets were taking long chances. You have all, or at least many of you have done the same thing. Now how did you do it? Did your elders ever ask you that question and were you able to answer it? You very probably were not able to give any very satisfactory reply. I could never tell them how I acquired my skill. I know now. It was simply the development of the latent sense of "accurate direction." Not one man in 500 has this sense developed. If you don't believe it, just step to the window and point your forefinger suddenly at some object like a fence picket, or a small sapling thirty or forty yards away; keep your finger perfectly still and go through the process of aiming; you will have to be careful about this or you will instinctively move your finger into the line of sight. Now see if you are pointing accurately at the object. The chances are ten to one that you are not. If your daily beef steak depended on your ability to hurl a stone hatchet into the skull of a charging aurochs, or drive an arrow into the vitals of a buffalo from the back of a galloping horse you would be alle to point instinctively and accurately at any object within the range of the weapon you are accustomed to. This is the developed sense of "accurate direction" and it is the sense upon which a base ball pitcher makes his reputation; upon which the ancient archer with his cloth yard shaft depended, and which the skillful mounted pistol shot must develop.

Is the development of this sense of "accurate direction" with the pistol difficult? Not at all. There is no necessity for any expenditure of ammunition at first, nor need the expenditure of ammunition be any greater than it is at present. A suitable object for a target, an empty pistol, and then simply repeated practice in dropping the weapon on the target without reference

to the sights and correcting your error as described in the case of pointing with the forefinger. If no pistol is available simply pointing with the finger will help. When riding along on the march I constantly raise my pistol and drop it on small tree trunks, fence posts, rocks and other objects along the line of march and encourage my men to do the same. Men should be cautioned to carefully correct the direction of the pistol in each case by reference to the sights, otherwise the exercise is time wasted. I believe that pistols should be carried to drill and a few minutes devoted to practice of this kind. It would accustom the horses to the sight of the weapon and the act of pointing and render unnecessary much of the annual breaking of the animals to the sight and the sound of the pistol before beginning mounted target practice. The custom now is to put pistols away at the end of the target season and never regard them seriously as weapons until the opening of the next target season. Results cannot be expected in this way. I presume if there was an annual saber practice season we would treat our saber in the same way. But we do not. It is true that we do very much the same with our rifles, but the rifle is an entirely different weapon and when we do practice with it we devote much more time and ammunition to the work. Even so I believe it is a mistake to assign rifle practice to any two or three months of the year.

With reference to our present course in mounted pistol practice. This course provides only for firing to the flank, While it contemplates firing to the right front, left front, etc., the targets are arranged parallel to the track and the effect is that of firing only to a flank. In campaign, our cavalryman will very probably be obliged to deliver his fire to the front more frequently than to the flank. There is no reason why this cannot be carried out in practice by squads, platoons and troops. An infinite number of practical field exercises could be prepared for the pistol just as readily as those we now carry out with the rifle. This season after the close of the pistol practice, I carried out a practical field exercise with the pistol which involved charging at full speed and firing on targets directly to the front. The details of this exercise are inclosed.

While I have always been a fair pistol shot dismounted, it was only two seasons ago that I learned how to shoot the present mounted course. This came to me purely by accident. I had finished my dismounted course with the unusually low score of 306 due purely to carelessness. In order to make Pistol Expert 62 points, out of the possible 80, were necessary and I believed this to be out of the question for me. In my instruction course mounted I made scarcely anything, nor was I able to find the nature of my error for I had the manipulation of the pistol thoroughly down, and I could hold where I wanted to. On my first run through on record I saw the shot strike of two of my misses both apparently to the left. Thinking this over while waiting for my run to the left I decided that my poor shooting was due to my failure to allow for the speed of the horse which at the short distance of ten yards I had always assumed to be practically negligible. I decided to give this a test and on my run to the left I held off the target on the side from which I was approaching and made a possible. I continued this practice for the rest of my record and checked my shots after each run if I failed to see them as they were made. I wound up with a score of 69. On returning to camp, I explained to several officers who had their mounted course still to fire, what I believed I had learned and they at once tested it. One of these officers made 73 in his mounted course. I explained this principle to my troop during this season's practice and got good results in every case where the man was up on manipulation.

To secure results then, with the pistol mounted I am convinced depends on the following:

1. Manipulation. This is simply what is ordinarily termed "form," perfect ease in handling the arm.

Form is at least one third of the art of skillful use of any firearm.

Trained sense of direction. This has already been explained.

3. Confidence. This will naturally result from the acquisition of the other two qualifications.

4. Above all things prohibit the use of sights in firing. Use them only for correcting inaccuracies in pointing while training the sense of "accurate direction."

To recapitulate just a little. It is clear that we possess supremacy in two of the three arms which we now carry. It is equally clear that for economic reasons no nation with which we are liable to be involved will ever seriously contest this supremacy. The very fact that they do not give the time, or support, to proficiency in these two arms is to my mind the most vital reason why we should strain every nerve to maintain this supremacy and not an argument in favor of adopting their method. These are the only two trumps which we hold in a mighty shaky hand; by all means let us hold on to them. As for the third arm, the saber, there is no reason on earth why we cannot perfect ourselves in its use if we seriously take it up as we should have done long since. The Mounted Service School would seem to be an appropriate center from which to disseminate knowledge of the use of the saber. Therefore, let us give up nothing, but perfect ourselves in what we now have.

Above all things let us have a powerful modern pistol at once and get to work with it. The new Colt's Automatic .45 promises to be an effective weapon. With trained mounted pistol shots this weapon begins to be deadly at more than a hundred yards. A body of men armed with this weapon could deliver three shots in the last hundred yards of their attack and still have four left in the magazine. Skillful mounted pistol shots would deadly work in the twenty-five yard zone, if not on men, at least on horses.

It is possible that we are going to lose the pistol; the powers that be may decide that it is a useless piece of equipment. But let no one deceive themselves; the American cavalryman is not going into campaign without his pistol. If the government will not supply it he will furnish it himself.

PROBLEM IN PISTOL CHARGE WITH SERVICE CARTRIDGES.

Problem.

A troop of cavalry moving north on new target range, is fired on by dismounted squad in position at base of ridge near old ruin to the east. Troop dismounts to fight on foot except rear squad which is detached to gain enemy's left flank under cover of the woods along dry creek bed seperating old and new ranges.

Squad leader, after moving at a gallop some 500 yards, finds he has approached to within 150 yards of the enemy's position, is still undiscovered, and has cover for a charge as foragers to within 100 yards of the enemy's front. Enemy is in irregular open order with wide intervals taking cover behind bushes and trees. He decides to charge with the revolver.

Target.

A line of targets placed behind bushes with intervals of about ten paces, one target for each man firing. Each target made up of two targets "E," arranged as follows: One target "E" facing as if firing at the troop; a second target "E" placed at right angles and in rear of the preceding and flush with its right hand edge to simulate a dismounted man turning to his right while delivering fire at an enemy charging through his line; this to enable troopers to deliver to the right as they passed through the line any unfired cartridges remaining from the firing during the direct charge.



Procedure.

The two troop officers and six men who had made scores of 40 or better in their regular mounted practice, made up the squad. This squad of eight men was divided in two squads of four in order to avoid confusion and accidents at first and also to permit the troop commander, who was firing, to better supervise the test. The men were shown the targets and the following details were explained to them; to charge at full speed

directly at their target, leaning well forward and to the right; to direct their course so as to finally pass the target to its left; to continue at full speed beyond the targets into the woods; only the right flank man to fire on his flank target as he passed through the line; this last precaution was necessary for safety in practice and would not, of course, be observed in action; firing to begin at fifty yards from the enemy's line, five shots to be delivered if possible.

Four targets (see targets above) were set up and the two squads of four practiced for a run or two with the empty revolver. A run was then made with blanks and then the first four men were lined up for the charge with ball ammunition.

Results.

The first run brought out a number of important points which had not occured to me, or at least had not been fully appreciated. The most important point was the speed with which the distance was covered when the horses were at a dead run. The result of this was that only one man succeeded in firing five shots. I was able to fire only two myself (using single action) but got a good hit at fifty yards. The next important thing which developed was that with horses at full speed the seat is much steadier and firing at a target to the front is a very much simpler proposition than firing to a flank as we do in regular practice, no allowance being necessary for the speed of the horse.

The result of the first run was as follows:

Target.	No. of shots fired.	No. of hits made.
No. 1	2	1
No. 2	3	1
No. 3	3	2
No. 4	4	0

A second run was then made with the same men running on the same targets with the following results:

Target.	No. of shots fired.	No. of hits made.
No. 1	4	1
No. 2	3	3
No. 3	4	2
No. 4	4	1

In order to permit every man to fire at the flank target of his objective, the next run was made by having each man run separately at his target with results as follows:

Target	No. of shots fired.	No. of hits made.
No. 1	3	0
No. 2	3	1
No. 3	3	3
No. 4	2	2

This completed the test for the first squad of four. The second four men were run through the course in precisely the same manner. Without detailing the individual runs, the result was as follows:

Target	No. of shots fired.	No. of hits made.
No. 1	10	2
No. 2	10	4
No. 3	10	3
No. 4	7	1*

The result of the above test far exceeded my expectations and suggested several variations of the exercise which will be carried out in other tests if opportunity offers. One of these exercises will include delivering all unfired shots to the rear after passing through the line of targets. I am convinced that, after sufficient practice with the new automatic pistol, much better results can be obtained. The new gun holds seven rounds; it is a much more powerful arm so that effective fire can be opened at 100 yards or farther; the speed with which the ground is covered will not be so much of a factor as the weapon can be fired much more rapidly and the pointing position, or position

Pistol worked badly.

of "accurate direction," can be maintained from the moment of opening fire. The present pistol (Colt's .38) is not only ineffective as to shock, but defective as to mechanism. Not one of these pistols in ten is a six o'clock gun; the mechanism consists of so many delicate parts, especially small springs, that in a single season firing from six to a dozen pistols in a troop go out of action and have to be consigned to the store room. Fully 30 per cent. of them "shave lead" a defect which causes more horses to become incurably gun shy than any other one thing. These weapons are a disgrace to the service and I am not surprised that they have created a sentiment against the pistol.

SHIPMENT OF MEN AND HORSES BY RAIL.

BY CAPTAIN WILLIAM BENTON COWIN, QUARTERMASTER CORPS, U. S. ARMY.

In this present era of rapid transportation when distances are eliminated, and the thought of waking in the morning after having been carried hundred of miles in one nights' time, little thought is given by the traveler to the wondeful method and system which makes all this so remarkably possible.

During this past year when our army has been more particularly mobile, through force of the unsettled conditions existing along the Mexican Border, many a staff quartermaster has been brought face to face with problems and details connected with the hurried transportation of a unit of our forces hitherto existing for him in a more or less vague form of theory solely. Acknowledging this from my own personal experiences, it seems to me to be not unlikely chance that some of my brother officers might care to profit from a few of my personal problems. the solving of them, and further, glad to be perhaps guided by a few notes of memoranda, and condensed jotting from my "Dope Book" taken from the Quartrmaster Manual, text books, circulars, and so on, but not found by all to be available for immediate reference when the need for their use arises. With this possibility in view, I have sifted the following from the maze of orders and circular letters governing the transportation of a fully equipped unit of our army. These I have divided in the general order of need as will be shown under the following sub-heads:

TRANSPORTATION REQUESTS.

When an officer requires transportation requests for official use, a written request should be made, in case time permits, to the Chief of the Quartermaster Corps, Washington, D. C., for an adequate supply to meet his estimated need. In case the

need, however, is immediate a request should be made to the nearest Quartermaster for the present supply. In either case, the number of requests will be invoiced, using Form (QMC) No. 117, showing the number of requests transferred, their serial number, and when received from the invoicing officer; his invoice and receipt should be verified, the latter signed to show your receipt of the proper number and returned to him, and the former, bearing the invoicing officer's signature, given a proper serial number as provided for on the fold thereof (Cir. 18 and 19, QMGO—1911), and filed by you as a voucher to your property return. You have by this transaction opened your property account by the physical number of transportation requests you have receipted for.

ORDERS FOR THEIR ISSUE.

A person requiring a transportation request should present the issuing officer an order in duplicate, signed by competent authority. (If not presented in duplicate, it will be necessary for you to have a true copy made for your files). Before making out the request, study the order closely, note the number of persons for whom transportation is directed; between which points transportations is to be furnished; whether the cost is to be charged to the traveler, or to some Department other than the Quartermaster; the class of transportation, and whether or not the order contains the statement that "The travel directed is necessary in the military service." If the order is issued by a Post or Regimental Commander, and calls for transportation involving a permanent change of station, the authority directing the change and travel involved should be quoted in the order. After satisfying yourself that the order is competent in every detail, issue the request to the initial carrier in the name of the person designated in the order, if for more than one person, in the name of the person in charge of the number of persons in the order, as: , and State the class of transportation, whether 1st Class limited, or 2d Class, whether Special or Contract Rates apply, giving in each case the number and date of authority for Special or for Contract Rates. Care should be taken in filling out the stub of the request so that it corresponds in all essential details. Both

copies of the order directing travel should then be indorsed:

Post 19 Transportation furnished on this order from , to , for (name of person, or persons in charge and number traveling), via (route in full) Class (1st, or 2d limited), with Berths in (Standard or Tourist Sleeper). File one copy of this order, returning the other with the transportation request to the traveler, instructing him, if necessary, where to present it in return for ticket or tickets.

A copy of the original transportation request is made on Form 17, which is attached to and mailed to the office designated to settle the accounts of the initial carrier on which the request was drawn. (See Cir. 1, QMGO—1912 for list of designated offices) on Form 100 (yellow). The request should be entered on Form 1-A, (QMC).

FORM 1-A, QUARTERMASTER CORPS.

Cir. 3, QMGO-1911, states: "Form 1-A, ("List of bills of lading and transportation requests issued") will be kept up currently. To this end proper entry will be made upon Form 1-A immediately upon the issuance of bills of lading, transportation or sleeping car requests, and beofre they are signed." The essential datum to be shown on this form is, briefly: Such as is called for under the headings on the form, and, in addition, entry will be made showing the disbursing office to which each memorandum copy (Form 17) of transportation and sleeping car requests have been sent. To quote further from the above mentioned Circular: "For its own protection, this office (the QMG) will be obliged to take measures to fix individually the responsibility for failure on the part of any one concerned to supply, according to existing instructions, the information required."

CLASS OF TRANSPORTATION.

When an order presented for the issue of transportation does not specify the class to be furnished, the issuing officer is required to determine the proper class authorized to be furnished as specified in Army Regulations and amendments thereto. Cir. 21, OCQMC., 1904. prescribes that a seat by day and a

berth by night be provided for each soldier, when the cost does not exceed the cost of the 1st Class limited fare; when sleeping car accommodations are not provided, the soldier is entitled to 1st Class fare, unless otherwise specified in the order. Under the above ruling a soldier, or a detachment of soldiers can, in most cases, be provided with sleeping car accomodations. The following governs: If a detachment, determine the cost by taking the cost of one upper and one lower berth for each three men, as follows: Three 2d Class fares, plus the cost of one upper and one lower berth; if the total cost of the above does not exceed three 1st Class limited tickets, then the 2d Class transportation, and two berths for each three men can be furnished. In a case of one man traveling: If 2d Class fare and tourist berth can be furnished at a cost not to exceed 1st Class fare, then the former may be furnished. In drawing sleeping car requests care should be exercised to specify the number of berths required, not sections, for three men; draw the request for two berths (allow one section). (See Decision, OMGO-March 15, 1910). In drawing a sleeping car request (which is the same form as is used for rail), for both officers and enlisted men, the number of berths required, and the number of officers and enlisted men, must be shown separately; namely: Twenty berths in tourist car, two officers and fifty-four enlisted men. In determining sleeping car accommodations for enlisted men, apply the following: 3 men to a section, or, two berths for each three men: if there is a fraction over, then one berth for each man over. Those to whom sleeping car requests are furnished, should be instructed to state in their receipt the number of lower berths (separately) actually furnished.

As tariff rates on upper and lower berths, which went into effect February 1, 1911, authorizes a charge for an upper berth of eighty per cent. of the tariff charged for a lower berth in either standard or tourist cars, transportation requests should show the number of berths, standard and tourist, lower and upper separately. Circular No. 1, OQMG—1911, states: "Officers are to be furnished with lower berths if practicable."

NON-COMMISSIONED OFFICERS.

A non-commissioned officer traveling from Omaha to New York is entitled to 1st Class transportation, with standard sleeping car accommodations for the entire journey. (See GO—27, WD—1910), because there is no 2d Class transportation with tourist car accommodations between these two points, but if, however, the journey were from Omaha or New York to San Francisco, it would be different, as in this case 2d Class rates and tourist sleepers could be obtained for a part of the journey, and in that case 2d class rates should be furnished for that part of the journey over which such rates applied.

1st. Under the provisions noted in the foregoing paragraph, and G. O. 27, WD., 1910, any non-commissioned officer traveling under competent orders, when the travel exceeds twelve hours, and it is *not* day travel, is entitled to sleeping car accommodations for the entire journey. If 2d Class transportation, with tourist sleeper, can be obtained, the transportation should be drawn for 2d Class and berth in the tourist.

2d. When 2d Class transportation, with tourist accomodations can be obtained for a *part* of the journey, and standard sleeper and 1st Class for the balance, the request should be drawn for 2d Class rail, and tourist sleeper for the part of the journey to which that rate applies and 1st Class for the balance.

3d. On some roads which operate tourist sleeping cars no 2d Class fare is in force. In this case draw transportation requests for 1st Class fare and tourist sleeper. (Decision QMGO—1912, Cir. Letter No. 5367). All transportation requests drawn for officers must be *routed*, and the route shown on the request must be indorsed on the travel order.

4th. When the established route of travel shall, in whole or in part, be over the line of any railroad on which troops and supplies of the United States are entitled to be transported free of charge, or over any fifty per cent. land-grant railroad, officers traveling as herein provided for shall, for the travel over such roads, be furnished with transportation requests, exclusive of sleeping and parlor car accomodations, by the Quartermaster Corps, or when the established route of travel is over any of the railroads above specified, there shall be deducted from the officers' mileage account, by the Quartermaster paying same.

three cents per mile for the distance for which transportation has been or should have been furnished. If an officer fails to secure transportation requests over subsidized roads, he cannot be reimbursed for what it would cost the Government had transportation requests been furnished.

Transportation should be furnished over the shortest usually traveled route, but if the officer requests that transportation be furnished over any other route or routes, it may be issued as requested, but the fact that it was so routed at the officers request and for his own convenience, must be indorsed on his travel order. Sleeping car requests are not furnished to officers except when they are traveling with troops.

Tourist car accommodations should be issued in connection with 1st Class transportation when practicable, and when no 2d Class rates are available for transportation the provisions of Par. 1143, A. R. 1910, are mandatory that the lowest class of sleeping car accommodations shall be furnished a non-commissioned officer, when available.

SEA TRAVEL, ENLISTED MEN.

When drawing a request for sea travel for an enlisted man, he should be furnished 2d Class transportation, excepting in cases where 2d Class transportation is not available, when he is entitled to 1st Class transportation. (See A. R. 1143—1910).

OFFICERS.

Actual expenses only will be paid officers for sea travel when traveling under competent orders with or without troops. The amount so paid will not include any expenses while ashore at port of embarkation, intermediate, or of debarkation.

COST TO BE CHARGED TO SOLDIER.

When an order directing that transportation be furnished by the Quartermaster Corps (soldier reporting from furlough, without means, etc.) and the cost thereof charged to the soldier specified in the order, the request is drawn in the usual manner. Notation is made on the back that "Cost is to be charged to the soldier," giving his name, rank, organization, and the date and number of the order under which such transportation has been

furnished. The organization commander is then notified by letter of the tariff cost (probable cost if tariff is not available). At the same time, the officer of the Quartermaster Corps designated in Cir. 1, QMGO., 1912, or in amendments thereto, to settle the account, is notified and requested to immediately inform the organization commander of the "net cash" cost of the journey made to be charged to the soldier, so that proper notation may be made on the muster rolls of the organization. In the column of "Remarks", Form 1–A, following the entry of this request, the fact that cost is to be charged to soldier, will be duly noted.

ATTENDANT WITH INVALIDED SOLDIER.

When an attendant accompanies an invalided soldier, he is entitled to the same sleeping car accommodations as the invalided soldier, which is in the standard car. In this case the Surgeon furnishes a certificate showing the necessity for the accommodations to be furnished. (See A. R. 1143, 1910).

CANCELLED REQUEST.

When an unused transportation request is returned to an issuing officer, he should plainly write "cancelled" across the face, and initial it. Form 1-A should then be corrected to show this request cancelled; the same action also to be taken on Form 43, QMC. The cancelled request should be forwarded with Form 43 at the end of the month. In case cancellation takes place after the Form 43 has been forwarded, the cancelled request should be forwarded to the Chief of the Quartermaster Corps, U. S. A., with the request that your Forms 1-A and No. 43 should be amended to show such cancellation.

ATTENDANTS WITH CARLOAD SHIPMENTS-PUBLIC ANIMALS.

In carload shipments, an attendant is in all cases furnished free transportation to destination of livestock with one carload of horses or mules. In the territory west of Chicago and the Mississippi River (including the states of Illinois and Wisconsin) but not including the states of California, Oregon or Washington (and not local stations of the Southern Pacific R. R., in

Arizona), free return transportation will be furnished an attendant who has accompanied a carload of horses or mules.

In shipments of less than carload lots, in the territory east of Chicago or St. Louis, and north of the Ohio and Potomac Rivers, an attendant is furnished free transportation to destination, and in all other territory, western and southern, free transportation is *not* furnished attendants to destination or returning.

In cases where an attendant or attendants accompany shipments of animals in carload or less than carload lots, no separate transportation request will be drawn by the shipping Quartermaster for their transportation, but the bill of lading which is issued with the shipment of live stock they accompany, will be indorsed: Transportation required for attendants. (Give their names). Shipping officers will immediately arrange with the agents of common carriers to issue transportation for attendants on this authority. The fare of attendants, when not carried free, will be paid by disbursing Quartermasters in connection with the freight charges on the livestock when settlement is made on the bill of lading.

When it is necessary to furnish return transportation, after delivery by attendant of livestock at destination to which consigned, to enable attendant to return to their proper stations, and when no free transportation is authorized under railroad rules, transportation requests will be issued for the return journey. This will be 2d Class in all cases when available. If not available, 1st Class limited transportation will be furnished. When the return journey exceeds forty-eight hours, and 2d Class fares are available, tourist sleeping car accomodations are authorized in case of three or more men traveling together, on the basis of three men to a section. Less than three men, may be furnished a berth. In no case will berth in standard sleeper be furnished.

When free return transportation is authorized under the regulations of the common carriers concerned, no return transportation request will be issued by the Quartermaster Corps, but attendants will be instructed to present their stock contracts to agents at destination and secure transportation without cost to the Government, in accoradance with the rules stated in their contracts. In cases of shipment to points in Oregon and Washington, transportation at one-half limited first class fare is furnished the returning attendant, and transportation request issued for such travel under such conditions will be endorsed: "One-half 1st Class limited; Returning attendant, T. C. F. B., Tariff No. 4–H."

It is assumed in all cases that shipments of public animals on Government bill of lading shall be fully foraged by the Ouartermaster from the point of origin to destination, but for other expenses, such as loading, unloading, watering, resting and for occasional emergency feeding charges that may have to be incurred en route attendants in charge of livestock will be furnished by the shipping Quartermaster in all cases, with a form of certificate, indicating number and date of bill of lading, issuing officer, shipping point, destination and routing, to be used by them in calling for services of the character referred to above, when in transit. These certificates to be signed in duplicate by the attendant in charge, one copy to be given to the agent of the common carrier that furnishes the service at the point where performed, the other to the consignee, to be forwarded by him to the office designated to settle the account. (See Cir. 1. OMGO-1912.)

HORSES OF OFFICERS CHANGING STATION:

Under the provisions of paragraph No. 1114, A. R. 1910, an officer is entitled to have horses purchased and shipped from point of purchase to his new station, provided that cost of shipment from point of purchase to his station, does not exceed the cost of shipment from his old to his new station on his last change of station; and, provided that the officer has not had his authorized private mounts shipped from his old to his new station, the total cost to the Government not to exceed \$100 for each animal including the cost of transportation for an attendant.

An officer desiring to ship his mounts under the provisions of the above, should prepare and forward to the shipping Quartermaster the following papers: Invoice, on Form 117, QMC. in duplicate; a certificate in duplicate, as follows: I certify that under the Act of Congress Approved March 23, 1910,

that I am entitled to have my private mounts shipped from _____ (point of purchase), to my new station.

My last change of station was made pursuant to _____ Orders No ____, dated _____ 191 from ____, to ____, orders No _____ Sgd ____ Rank ____.

Under the provisions of Par. 1114, A. R. 1910, an officer under orders for duty over the sea, may have his authorized mounts transported on Government bill of lading to any place in the United States he may elect, and upon his return to the United States, transported to him at his new station there.

Owners of animals desiring to ship same under the provisions of A. R. 1114, 1910, must prepare invoices in duplicate on Form 117, and furnish the following certificate in duplicate; I certify that the horses, transferred by me to the Quartermaster Department at pursuant to change of station, per Order No are owned by me and are intended to be used by me at my new station in the public service.

ATTENDANTS ACCOMPANYING.

The name and address of the attendant to accompany the horses should be noted on the face of the invoices. The certificate will be attached to and made a part of the bill of lading issued by the Quartermaster. An enlisted man may be ordered to accompany as an attendant the authorized horse or horses of an officer changing station under competent orders, and ordered to return to his station upon completion of the duty. Commutation of rations when necessary, may be ordered paid to an enlisted man traveling on this duty.

The order directing the change of station of an officer will constitute the authority of the soldier's commanding officer to issue the order as stated above. (G. O. 21—W. D., 1911.)

STATE SANITARY REQUIREMENTS GOVERNING, ADMISSION OF LIVE-STOCK—HORSES AND MULES.

Alabama: Health certificate in duplicate, issued by an officially qualified veterinarian.

Arizona: Health certificate, preferably including Mallein test.

California: Health certificate, including Mallein test. One copy of certificate and test record attached to way-bill, and duplicate copy mailed to State Veterinarian on day of shipment.

Colorado: None.
Connecticut: None.
Delaware: None.
Florida: None.
Georgia: None.
Idaho: None.
Illinois: None.
Indiana: None.

Iowa: None:

Kansas: Inspection certificate issued by Federal or State authorities, when shipped or driven from below the southern quarantine line, showing them to be free from Texas fever ticks.

Kentucky: None.

Louisiana: Health certificate showing freedom from all contagious, infectiors and communicable diseases.

Maine: Health certificate and Mallein test.

Maryland: None. Massachusetts: None. Michigan: None.

Minnesota: All branded horses, mules, or asses imported into Minnesota must be accompanied by a health certificate, certifying that animals have been examined and Mallein tested within thirty days prior to date of shipment and found free from glanders.

Mississippi: None.

Missouri: None specifically required, the statutes of the State forbid the importation of animals affected with glanders, farcy or nasal gleet.

Montana: Health certificate including Mallein test.

Nebraska: Health certificate.

Nevada: None.

New Hampshire: None. New Jersey: None.

New Mexico: Health certificate.

New York: Health certificate.

North Carolina: Health certificate when for breeding purposes.

North Dakota: Health certificate, including Mallein test made within thirty days prior to entry into State. Certificates for stallions should, in addition, show the animals free from infectious, contagious or transmissable diseases or unsoundness.

Oklahoma: Health certificate stating particularly that stock is free from ticks.

Ohio: None.

Oregon: Health certificate, including Mallein test of stock used on railroad or other construction work. Horses that are part of settlers' effects, and animals for breeding purposes need no inspection but must be free from disease to comply with Oregon statutes.

Pennsylvania: No certificate, but must be free from contagious or infectious diseases.

South Carolina: Health certificate and Mallein test of any exposed animals.

South Dakota: Health certificate including Mallcin test.
Tennessee: Must be free from equine scabies, glanders or other centagious, infectious or communicable diseases. No certificate.

Texas: Health certificate.

Utah: Health certificate, including Mallein test for stallions and jacks.

Vermont: None. Virginia: None.

Washington: None. Physical inspection.

Wisconsin: Health certificate, including Mallein test.

Wyoming: Health certificate, and for stallions and jacks, include Mallein test.

DETENTION AND INSPECTION, QUARANTINE.

In lieu of an inspection certificate, as required by Rule No. 18, Live Stock Commission, stock may be detained at a suitable stockyards or other inclosure within the states, nearest the state line, on the railroad or on the highway over which they are being shipped, driven or hauled, and there examined at the

expense of the owner, or may be shipped, driven or hauled to their destination under quarantine at the discretion of the owner there to remain in quarantine until inspected, and tuberculine or mallein tested at the expense of the owner, and released by the State Veterinary Surgeon. Such an expense shall be a lien on the livestock.

Railroad or transportation companies are required to notify the State Veterinary Surgeon of any shipments of live stock entering the State, and not being accompanied by certificates of health as required by the State laws.

All health certificates are to be made in duplicate, one copy given to the Quartermaster to be attached to the bill of lading, and the other copy given to the attendant.

PRECAUTIONS NECESSARY.

Officers should inspect the stock cars, and have them thoroughly disinfected by a Veterinary Surgeon where possible. He should also see that the cars are free from nails, loose boards in floors and sides of walls; see that the stalls are solidly built, and that the car is well stocked with hay and the necessary amount of water. Hay should not be placed on the floor of stalls as it makes them too slippery. The attendant should be provided with a bucket, lantern, hatchet, and also with one or more blank official telegraph blanks (Form 87–QMC), together with his bill of lading, live stock contract and certificates of health.

NOTES ON WAGON TRANSPORTATION.

BY LIEUTENANT CARY I. CROCKETT, SECOND INFANTRY.

THE Field Service Regulations prescribe as a unit of army transportation the wagon company consisting of 27 wagons, 5 riding mules, 112 draft mules, and a total personnel of 36 men.

It is believed that in future warfare, though automobile trucks will doubtless be of great use in transporting men and supplies, the service of supply for troops operating in the field at a distance from depots will be dependent largely as heretofore upon wagon transportation and it is relative to the latter that the writer has ventured to present the following notes gleaned during two years of experience as a wagon-master serving with troops in the field in time of war.

ORGANIZING AND EQUIPPING THE WAGON COMPANY.

Assuming that war has been declared, troops have been assembled in moblization camps for formation into brigades and divisions; and the supply and ammunition trains of the divisions are being organized; the situation confronting the officer responsible would probably be as follows:

There would be several thousand mules running loose in the depot quartermaster's corral; the wagons, harness, equipment, tools, etc., would be in boxes and crates in the quartermaster's store houses; and the wagon masters, teamsters, etc., yet to be secured.

The first thing to do would be to get together the necessary personnel for each wagon company, viz.:

- 1 wagon master;
- 2 assistant wagon masters;
- 1 horseshoer:
- 1 blacksmith:

1 saddler;

1 cook;

1 watchman;

28 teamsters.

This would be difficult. The result would be, as found in actual experience, that the depot quartermaster would have enough civilians on his rolls to fill these places; that organization commanders would object strenuously to the detail of soldiers for these duties as this would decrease their number of effectives; and that in order to get men any one and every one who would apply for work would be engaged without regard to previous experience or training.

Apropos of this the writer has in mind a vivid and painful recollection of a certain rainy night in Japan when 500 mules en route to the Philippines were unloaded from a transport with a working force of such men, engaged as teamsters on the dock in Tacoma, and a still more painful recollection of a very warm day in Manila when each of these same emergency men attempted to catch, harness, and drive four half-broken Missouri mules.

There were among others, a lawyer from Australia, an Italian ex-naval officer, and an alleged member of the English nobility. It is no exaggeration to state that these hardly knew which end of the mule to put the collar on. There were wagon masters who could neither assemble a wagon nor put together a set of harness. When the means for supplying troops in the field are in such inefficient hands the probabilities are that the troops will suffer.

It would seem that the organization of a supply corps in which men could be enlisted and trained for this service would operate in the direction of economy as well as efficiency.

Having secured his men the officer in charge would draw for each company:

27 escort wagons, complete (including sheets and bows);

27 extra tongues;

27 extra reaches;

2 extra wheels (one fore and one hind);

12 extra lead bars;

4 extra doubletrees;

6 pair extra hounds (front and hind);

32 curry combs and brushes;

2 extra wagon sheets;

27 G. I. buckets;

27 lash ropes;

27 axes;

27 picks;

27 shovels;

6 fifth chains;

27 whipstocks and lashes;

27 extra axle nuts;

27 extra tongue bolts (used as wagon wrenches);

27 candle lanterns;

27 cans axle grease;

60 open links;

1 block and tackle (one double and one single block with 200 feet of rope);

1 box harness oil;

1 box veterinary supplies;

1 portable forage (blacksmith's and horseshoer's outfits);

1 saddler's kit (including a side of leather);

1 box tools (hammer, hatchet, saw, etc., also assorted nails);

Extra mule shoes and nails;

5 Q. M. saddles, blankets and bridles;

130 head halters and chains (13 extra);

56 sets wheel harness (2 extra); ·

56 sets lead harness (2 extra);

50 extra hame straps;

8 pair extra hames;

8 extra collars;

36 revolvers, belts, and holsters with 720 rounds ammunition:

36 mess kits;

1 field range complete;

1 conical wall tent (2 in cold climate);

112 draft mules (4 extra);

5 riding mules;

The writer has depended upon memory in making the above list but he believes that a wagon company so equipped could easily undergo three months hard service in the field in a theater of operations where articles of equipment could not be renewed; naturally under other circumstances it would not be necessary to burden the company with all of the extras mentioned.

The efficiency of the company is maintained however at the cost of constant care and vigilance on the part of those in charge. Thirty-six men for a company of twenty-seven wagons is a very liberal allowance. The writer has had to do with no assistant, one horseshoer, one cook, and thirty teamsters, for a wagon train of thirty wagons and this in the field in time of war. No tentage or field range was furnished in this case.

The wagons should be of uniform and standard make. The wagons used in the Philippines during the Insurrection were of three different kinds, consequently, extra parts for each kind had to be carried and those of another kind when available could not be substituted.

The extra tongues and reaches are very necessary; they are carried outside the wagon bed in iron straps which hook under them and over the edge of the bed.

The extra wheels are inconvenient to carry but should be taken if a long march or expedition is contemplated. The fore wheel can be lashed under the rear of the bed and the hind wheel carried in the wagon. The axes, picks and shovels are securely fastened in cleats outside the beds. The fifth chains are fastened from front to rear under the wagons or to the tongues if ropes are used in place of chains. The lanterns are placed in the buckets and both swung under the rear of the wagons. Other extra parts are attached under the foot-beards or oustide the beds wherever most convenient. Those which cannot otherwise be conveniently carried are loaded in the field wagon of the company.

The object of the wagon company being to transport heavy compact loads, this should be interferred with as little as possible in attaching the extra parts and in loading the forage for the team and the bedding and clothing roll of the teamster.

The jockey box of each wagon should contain extra hame straps, and extra brake blocks, extra shoes (ready fitted) for the team, a can of axle-grease, two open links, an extra axle nut, a tongue bolt (wagon wrench), a curry comb and brush, and personal articles of the teamster.

The lash rope for each wagon is indispensable. The whip is necessary as without it the lead team can "jack-knife" and break the tongue, the teamster being helpless. The block and tackle is invaluable as a time and labor saving device, especially when traversing a rough country where roads and bridges are bad. With this arrangement wagons or animals can be lifted out of ravines or ditches, up steep inclines, out of quick-sand, mud, etc., overturned wagons righted; and wagons run on and off flat cars, with ease and celerity.

To continue with the organization of the company. The mechanics and laborers of the Quartermaster's Department would probably set up and grease the wagons; while this is going on the horseshoers should be at work shoeing the mules. The teamsters should be assembled, each given four halters and chains, and taken to the corral to get the mules.

It is probable that in order to facilitate matters the mules will have been classified and separated as follows: The short coupled blocky, round-barrelled, straight-backed mules, suitable for pack service, in one inclosure; the smaller lighter and more active draft mules, suitable for lead-teams, in another inclosure; the larger heavier draft mules, suitable for wheel teams, in a third inclosure.

While waiting to be shod the mules should be tied to a picket line and the harness fitted under the direction of the wagon-master and his assistants. Mules should be unharnessed however when brought to be shod.

As soon as a team is shod the teamster should harness and hitch to his wagon, load any articles at the store house that are to be taken to camp, and drive to where the wagon park is to be established. When his wagon is unloaded he should draw his equipment and extra parts, drive to his proper place in camp, unharness and busy himself in attaching the extra parts and in general getting his outfit in shape for field service.

In the mean time rations and forage will have been drawn and the company mess established.

If the company is to remain in camp for a week or longer the ground around each wagon should be cleared and ditched and harness racks improvised. While in camp a regular routine should be established and strictly adhered to. The animals should be fed at about daybreak, they should be watered before or at least an hour after feeding; groomed thoroughly, and the

camp and surroundings policed.

When it is impracticable to feed three times a day, about one half the allowance of grain should be fed in the morning and, if there is time for eating it, a little hay. When possible some hay should be fed before the grain is given. The rest of the allowance of hay and grain should be fed at about 5:00 P. M., after the animals have been watered. The grooming at this time should be as throrough as that in the morning. The wagon master or one of his assistants should always be present when the animals are fed, groomed, and watered. Grain should never be fed on the ground; when hay is fed on the ground the teamster should take care that it is not wasted as will be the case if too much is fed at one time. The old Spanish adage "Elojo del amo engorda el caballo" (the eve of the masterfattens the horse) applies here. The animals should be given salt about once a week. The allowance of fourteen pounds of hav and nine pounds of oats is ample and the animal if properly cared for and moderately worked should fatten on it. It is well to cut the allowance of oats down about one-fourth when the animals are not worked regularly.

It is always necessary to have a man on duty at night as watchman to guard the property, catch loose animals, and see that animals do not become entangled in the lines and get ropeburns or other injuries.

The company should be instructed and drilled in taking the formations prescribed in Field Service Regulations.

The wagon companies of a train may be encamped in column of companies, the wagons of each company in line, mules tied to the wagons, or to picket lines stretched between companies, the kitchen on one flank, lantrines on the other.

The wagon master should be held directly responsible for the discipline of the company and for the care and preservation of its property. He should receive the orders given by the officer in command and be held responsible for the manner of their execution. An assistant wagon master should act as forage master and clerk, make out ration returns, "keep track" of the property, etc. At inspections all leather equipments should be displayed and disciplinary measures taken if these have not been duly cleaned and oiled.

The wagon company should be as independent as possible; that is, the necessity for asking assistance from combatant troops should rarely arise. Occasions may frequently be known when defense from the enemy will be all that can be required of the train guard and escort; or the troops on this duty may not be of sufficient strength to furnish much assistance; here the wagon master will have an opportunity to demonstrate the efficiency of his company.

To promote this independence and to facilitate the execution of any duties out of the ordinary the company should be divided into thirteen units or sections, the last section including the field wagon of the company. The teamsters of each section work together; when a wagon is mired or overturned the other teamster, without waiting for orders, should come to the assistance and attach his lead team as a snatch team. A complete set of extra parts and of tools is carried by each section.

It is of course the duty of the train guard and escort to further in every way the steady advance of the wagon train but it is held that the wagon companies should be able in an emergency to dispense with such assistance.

In December, 1899, the writer was ordered to take a wagon train of thirty wagons from Cabanatuan, Nueva Ecija, to Manila in order to accompany General Schwan's expedition south of Manila. An escort of four cavalrymen was furnished. The train proceeded over abominable roads to Malolos thence to Manila down the railroad, utilizing the railroad bridges to cross the many streams. There were no other bridges, no ferries, and the streams were too deep to ford. A flooring about a yard wide made with planks taken from the floors of houses was placed on the bridge for the mules to walk on; the wagons were hauled up the embankment by hand, across on the bridge, and down the embankment on the other side; (here the block and tackle was useful), the mules led over, hitched to the wagons

again, and the march continued to the next bridge where the same operation was repeated.

The cavalrymen were obliged to swim their horses as these refused to walk the planks over which the mules were taken. The wagon train arrived in Manila in time to accompany the expedition under General Schwan.

This account is given merely as an example of what the exigencies of war service may require of a wagon company. With the organization into sections one man of each section can watch the teams and the others are available, with the tools at hand, to fix a broken wagon, repair a bridge, improve a bad spot in the road, etc. The necessity for the use of the teamsters may be of daily occurrence when operating in a theater where roads are bad.

MOVING THE WAGON COMPANY BY RAIL.

When orders to move by rail are received all the company property is loaded in the wagons and the company moved to the place designated for entraining. The company should do its own loading and unleading without asking help from combatant troops.

The equipment, forage, rations, etc., are loaded in box cars; the mules are unharnessed and held or tied; the harness is put in sacks and these placed in the proper wagons; the wagons are run up on the flat cars by hand (the block and tackle is useful here especially if an improvised ramp is used), the tongues are unshipped and placed in the wagons, and the wagons are blocked and lashed. The mules are then led into the stock cars, and if the journey is to be a long one, the halters removed. An ordinary stock car will hold nineteen or twenty mules placed with the heads and tails alternating. The men travel on the cars with the wagons or in the box cars. A day coach or tourist car, while adding greatly to the comfort of the men, is not necessary and in time of war would probably not be furnished.

Travel rations are issued and a boiler for making coffee kept at hand; the cook can make hot coffee in a few minutes during stops. The writer has traveled nearly all the way across the United States three times under such conditions and enjoyed the trips.

Stock cars should be inspected before they are loaded and no car accepted that is in bad condition. Care must be taken that there are no broken parts, projecting nails, splinters, etc., that might injure the animals.

To prevent shipping fever and other infectious diseases the cars should be disinfected before the animals are put in them.

To disinfect a stock car, spray with chloride of lime, 2 per cent. solution; or creolin solution, 60 c. c. (4 table-spoons) in a bucket of water; or clean thoroughtly and white-wash with freshly prepared white-wash. This is important. Troops about to take the field want their transportation available and can not wait to nurse sick animals. An army marches on its belly which, as a rule, is ministered to by the wagon trains.

When the train stops, men previously detailed examine each car to see that all is well with the animals. The lanterns, buckets, and axes on the wagons should be kept ready for use while en route. No straw for bedding should be used in the ordinary stock car. Animals which are down are assisted to rise before they are trampled upon and injured by the others. The wagon master and assistants supervise the watering and feeding, care being taken that no aminal is neglected. Animals that are crowded away from the feed boxes should be fed oats in buckets or on a newspaper placed on the car floor; the oats can be poured in through a funnel made out of a newspaper.

THE WAGON COMPANY IN THE FIELD.

Unloading from a railroad train is accomplished inversely as the loading but should require less than one-half the time.

The company is then formed in line or in column as is the more convenient, the teamsters in their places and all in readiness to move when the order is received. While waiting, the wagon master should make a careful inspection of each wagon and team to see that all are fit for field service.

When the column moves out, the wagon master should halt and make a critical inspection of each team, wagon, and load as it passes; he then arranges to make any necessary changes at the first halt. The wagon master should march at the head of the company, one assistant at the tail, and one opposite the center.

The wagons should be kept closed up. If a teamster has to stop to arrange something about the wagon or harness, he should drive to one side in order not to delay the others in rear and should return to his place in column at the first halt. The left side of the roadway is kept open whenever possible. An assistant wagon master, and if necessary the other wagon of the section, should fall out to help the one in trouble to close up promptly.

The Field Service Regulations prescribe a distance of two yards between wagons while on the march (this of course being exclusive of the road space occupied by each wagon and team). It is believed that it would be as difficult to keep wagons closed to this distance (unless marching over excellent roads) as it would be to keep a column of infantry closed to facing distance while marching over a rough trail and that some lengthening out must be allowed for.

A wagon train cannot be placed in the formations prescribed in Par. 171, F. S. R., quickly and without confusion, unless the teamsters have had much previous instruction.

The brakes should be used when descending inclines, however slight these may be, as this saves the necks of the wheel mules. The whip is not an instrument of torture and should be used as little as possible. Its principal use is to keep the lead team out of the way of the wheelers and to prevent the former from "jack-knifing" and breaking the tongue.

It is a mistake to suppose that mules are naturally vicious and require rough treatment. They are far more intelligent than horses and respond quickly to kind treatment becoming as gentle as kittens. If handled properly they will work as long as they have strength to move.

To start a wagon when heavily loaded the teamster should gather the team, release the brake, and give a short whistle, followed by the word for starting. Mules soon become accustomed to "dropping into the collar" together at the word of the teamster; the whistle prepares them for this.

When a wagon is stalled in deep mud, a fifth chain should be attached around the felloe and tire of the hind wheel deepest in and to the lead bars of a snatch team. The additional force of the snatch team, if applied from the front nearly parallel to the wagon will usually extricate it. The chain should not be attached to the axle or to any of the spokes. A rope is better than a chain for this as it does not cut the felloe. The chain or rope should be hooked or hitched so that it will come loose when the wheel turns. One lead team attached in this way gives a better result than four extra mules on the tongue.

When a muddy stretch of road is encountered the sections should "double up" before attempting the passage. It is better to do this than risk getting several wagons badly mired, besides it saves the mules. The same method should be adopted before attempting the ascent of a very steep incline.

A good teamster when driving through mud or up a hill will never allow his team to stop of its own accord; when he sees that the load is too heavy and the mules are about to give out, he stops them; it will then be less difficult to start them again. They are inclined to give up if allowed to pull untilex-haustion stops them.

A wagon is sometimes stalled in fording a stream and may be necessary to drive another wagon alongside and transfer a part or all of the load.

A mounted man should precede the leading team when fording. A mounted man appreaching a team in running water to assist the teamster should dosofrom the down stream side; if approached from up stream, the team will invariably turn down stream and perhaps break the tongue or overturn the wagon. The writer learned this to his cost when fording the Bagbag river, a swift and dangerous stream in the Philippines.

To cross sluggish streams too deep to ford; the wagons can be unloaded and the loads sent across on rafts or in boats the mules made to swim over, and the wagons dragged across on the bottom. A rope is tied to the center of the front axle hitched around the front end of the tongue, carried across the stream, and a snatch team attached. The wagon is run quickly across under water. This method was often used to cross "esteros" in the Philippines and always successfully. Boats should be used, if available, when crossing animals by swimming. A man sitting in the stern holding a halter chain in each hand can guide two mules over. When swimming with a mule the

teamster should swim on the down-stream side, one hand grasping the mane above the whithers; if the mane is clipped the collar is left on to afford a hold. The mule can be guided by splashing water with the other hand. This method is dangerous for inexperienced men.

The writer once had to cross a swollen river in Northern Luzon with five wagons loaded mainly with eighty thousad dollars in bullion for the pay of laborers on the Benguet Road. There was no bridge, the river was too deep to ford, too swift to use a raft, and a few small "bancas" were the only boats available. The responsibility for a hundred Bilbid prisoners with only a small detail to guard them was a further handicap.

The situation was similar to that of the farmer in the children's puzzle who had to cross a river with a fox, a goose, and a bag of corn, in a boat which would hold only himself and one of

his encumbrances at a time.

In this case it was necessary to take the wagons entirely apart and send them over by bits in the small boats; the mules were made to swim behind the boats; the money was sent in the boats, a piece of bamboo was tied with a long cord to each box of money as a buoy to locate it in case of an upset; twenty of the prisoners were turned into a working force, the rest shackled together and left under guard until the wagons and mules were crossed. The crossing took about five hours and is mentioned to show the expedient used. Though the problem may appear difficult there is nearly always some way to get a wagon train across a stream.

When the company is in the field the wagon master and assistants may have to work from before daylight until after midnight. They should not sleep until the last wagon is brought

into camp and its team properly cared for.

The wagon train accompanying General Lawton's command on his advance through Northern Luzon rarely got into camp before dark and, as there was no forage carried, it was then necessary for the teamsters to seek a rice field and, knee deep in mud and water, to cut green rice enough for four mules and carry it to camp on their backs. Some of the men were usually sick so the wagon-master had his share of rice cutting, in addition to providing for his own mount. The work became

so arduous eventually that several of the teamsters (civilian) refused duty; as their services could not be spared they were "spread-eagled" against the hind wheels of wagons and left there until they became amenable to discipline.

The wagon master should make a daily inspection of the collars to see that they are kept clean. If dirt is allowed to accumulate on the surface bearing against the animals' shoulder, a sore will soon result. The collars should be rubbed clean not scraped and no oil placed on the bearing surface.

A mule can be led behind the field wagon when necessary to rest it because of sickness or injury and one of the extras, substituted; if none is available, the team can be used as a "spike team" until another mule is secured.

Some tentage would probably be necessary in a cold climate. Ordinarily the teamsters sleep in or under the wagons and in this respect are sometimes better off than the troops.

In 1899, when General Lawton's command was crossing the Rio Grande at Cabanatuan the troops in bivouac on the banks of the river had no protection from the rain other than improvised out of cogon grass. Late in the night when the rain was falling in torrents some line officer approached one of the ammunition wagons and in an ingratiating tone asked the teamster if he "had room for a captain in there." The teamster stretched luxuriously and replied "no" that he "had a major in with him already." The captain sighed and splashed away into the darkness. The teamster lodged better that night than did General Lawton and the officers of his staff who spent the night on the shore hastening the crossing and encouraging the men at work by their presence and example.

Opportunities often occur for grazing and this can be resorted to, even at night, when forage is scarce. Mules are different from horses in that they are not so easily stampeded and of their own accord remain in the vicinity of the wagons.

Though night alarms were frequent in the early days in the Philippines the writer never witnessed but one stampede and that occurred not in the Philippines but in Japan on the before-mentioned night when disembarking from a transport. The ship was brought alongside the dock in Kobe at about dusk and the unloading was not completed until nearly midnight. By that time about two hundred mules were running loose in the city, enjoying their freedom hugely after a month on board ship but spreading consternation and terror among the natives. The entire police force was called out to round them up and eventually cornered them on Motomachi Street. The chief of police, himself well in the rear, ordered his men to close in, and the lines of policemen slowly advanced each carrying a paper lantern on the end of a stick. This stampeded the mules; cut off from the street they ran through some houses in the rear which, judging by the way they crumpled up; were constructed of match boxes and paste board and from the outcry raised must have harbored several hundred sleeping Japs. The mules were collected the next day from all parts of the city and suburbs. It was not learned who settled for the damages to the Japenese, the mules were unhurt.

The writer wishes to state in conclusion that in preparing these notes he has consulted no book or authority other than the Field Service Regulations and that the methods and expedients mentioned, for which however no originality is claimed are recommended as having been successfully used in actual campaign.

CAVALRY REORGANIZATION.

BY COLONEL J. H. DORST, U. S. ARMY, RETIRED, LATE COLONEL THIRD CAVALRY.

THE following scheme for the reorganization of the cavalry arm is taken bodily from a report made by me to the War Department in 1905.

In that report I recommended for the the first time, I believe, a reorganization of our cavalry and also the adoption of a system of orderlies for each regimental headquarters which has been since adopted in part. I should have suggested about fifteen orderlies for each regiment instead of six, but that would have made the total enlisted strength for the cavalry arm exceed the authorized number of 12,700. I merely suggested six as a starter until the principle of having orderlies should be established.

With reference to the suggestion that the number of second lieutenants for the six troops of a regiment be eight, my idea was to urge later that every second lieutenant, of the line of the army at the end of two years' service, with troops, should be sent to a service school for two years, at the end of which he should be dropped from the service unless he passed satisfactorily a certain prescribed examination. In case he did pass the prescribed examination and it was found that his habits, physical condition and temperament were such as to warrant his advancement, he was to be at once promoted to first lieutenant in whatever arm he was best fitted to serve, regardless of the branch to which he belonged as a second lieutenant, taking relative rank according to his graduating standing at the post graduate school. This would eliminate the unfit while still young enough to take up work in civil life and keep them from being a drag on the service until they reach the grade of field officer and then be shelved at the cost of much heartburning.

The number of second lieutenants should be just sufficient to fill the vacancies in the list of first lieutenants after four years' service as second lieutenants and would have to be determined by experience and the number eight as suggested is merely tentative.

I also had in mind having the troops large enough so that all the guard could be taken from one troop ordinarily, without the grooming, stable duty and horse exercise being neglected.

I may add that I believe a cavalry band in the field is very much of a nuisance but I provided for bands in the reorganization because I thought it useless to urge their abolishment. If abolished the number of men in the 18 bands of the suggested 18 regiments would be quite sufficient to form a 19th regiment.

REPORT.

Referring to the shortage of officers with troops, I have the honor to say that I have a plan for the organization of the cavalry arm which, if adopted, would materially alleviate the present conditions in that respect, and I see no reason why it should not also be applicable to infantry and field artillery. So far as cavalry is concerned, it offers a much more military organization than the present one, permits better instruction of more men, is more economical, reduces paper work, gives opportunity for contact of the troop officers with a greater proportion of their men and gives the Colonel more opportunity to get away from his office to observe what his officers and men are doing. At the same time it enables him to become better acquainted with them and better known by them.

I have had this plan in mind for nearly ten years, intending one time to mention it, among many other things, in a magazine essay on the subject of the military education of officers, my theory being that the best part of an officer's education is that which troops teach him by his contact with them, and that a really military organization of an army has also a great educational influence. My opinions have not changed as to the proper method of educating our officers, but I have not the time now to go into details of that subject. The time does seem opportune, however, to offer my views on the proper organization

of the cavalry arm.

It is, in brief, to divide the present authorized enlisted strength among eighteen instead of fifteen regiments and reduce the number of troops in each regiment to six instead of twelve, the total number of officers in the whole arm being increased by six. Each troop should have two captains, while the number of field officers in each regiment should be as at present. The organization would give each regiment forty-two officers instead of fifty as at present, with thirty-seven captains and subalterns to five field officers, instead of forty-five captains and subalterns as at present, and therefore provide for more rapid promotion.

No modern army, except ours, fails to provide for a reasonably rapid rate of promotion by seniority. In the former artillery regiments, as organized prior to 1901, there was much complaint of stagnation in promotion caused by having fifty captains and licutenants to five field officers. The present organization of all our regiments has helped matters but very little by providing as many as forty-five captains and lieutenants to five field officers, whereas the old cavalry organization had only thirty-eight captains and lieutenants.

Both the lessons of our former organizations, and those we might learn from continental armies where a large number of young captains and lieutenants resign, retire or pass into the reserve after a few years of military life and make room for those below them, were apparently unknown to or undervalued by the terson or persons who devised the present organization. For emphasis I repeat that abroad no regimental organization is adopted unless it secures a reasonably rapid rate of promotion through all grades, the fact that many young officers of wealth and title will certainly resign, retire or go in the reserve being one of the considerations peculiar to the armies of Continental Europe. By preventing too great stagnation in our regiments through better organization, various detrimental schemes for getting relief by legislation at a later date are obviated. This threatened stagnation is one of the arguments now used for the much dreaded promotion by selection and advanced by one of the very officers who is reported to have assisted in devising an organization that would create stagnation.

According to the proposed plan the regimental officers would be as follows:

1 colonel:

1 lieutenant colonel;

3 majors;

12 captains;

17 first lieutenants;

8 second lieutenants;

Total: 42 officers.

To this should be added for each regiment 1 chaplain and 2 veterinarians.

Each troop should have:

2 captains;

2 first lieutenants;

1 second lieutenant.

Total: 5 officers.

The five extra first lieutenants should perform the duty of regimental staff officers. The two extra second lieutenants are supernumerary officers for whom the regimental commander can always find work. If there were nothing else for them to do they could be sent to one of the service schools, as long as such details are required from regiments, and save detailing good senior officers away from their troops.

So long as the present organization of the supply department continues, the five regimental staff lieutenants should be classified as follows:

1 regimental adjutant;

1 regimental quartermaster;

1 regimental commissary;

1 assistant regimental adjutant;

I assistant regimental quartermaster.

The non-commissioned staff and band of each regiment should be as follows:

NON-COMMISSIONED STAFF.

1 sergeant major;

1 quartermaster sergeant;

1 commissary sergeant;

3 squadron sergeant majors;

3 squadron quartermaster and commissary sergeants;

2 color sergeants;

1 chief trumpeter;

1 regimental blacksmith;

1 regimental saddler;

1 regimental farrier;

3 squadron trumpeters;

1 regimental printer;

1 regimental clerk;

6 regimental orderlies.

Total: 26.

BAND.

1 chief musician;

1 principal musician;

1 drum major;

4 band sergeants;

6 musicians, first class (privates);

6 musicians, second class (privates);

8 musicians, third class (privates);

2 cooks;

1 wagoner

1 quartermaster sergeant;

Total: 31.

Total non-commissioned staff and band, 57.

Now this seems large, but the organization really saves detailed men. The three battalion quartermaster and commissary sergeants will save extra duty clerks and storekeepers drawing higher pay; also, perhaps, the detail of some troop non-commissioned officer away from his command as provost sergeant. Every detail of that kind has a certain deleterious effect on discipline. The chief trumpeter should not be a part of the band, but what his name indicates, a trumpeter and nothing more. He will then have more time to instruct trumpeters, also to discipline them; and at all regimental formations, as well as on the march, he can be with his regimental commander where he rightfully belongs instead of with the band where the musical conditions require him to be so long as he remains a band musician.

The reason for a regimental blacksmith, a farrier and a saddler, should be obvious. At present the whole field, staff,

non-commissioned staff and band are dependent on the civilian employees of the post quartermaster or men that can be spared temporarily from their troops. At my last post, Fort Assinniboine, Montana, I was compelled to order the quartermaster to hire a civilian blacksmith at a high rate of pay, as an emergency measure, to shoe the horses of the field, staff and band. horses of the fifty-seven non-commissioned staff and band, five regimental staff officers, and five field officers, make a total of sixty-seven horses, provided each officer has but one horse. In the field, the chaplain and veterinarians would also be mounted and medical officers and hospital corps men would be attached. It is both foolish and wrong to deprive the regimental headquarters of such special enlisted men. The effect in the field is to rob the troops of them by attaching such skilled men to headquarters, either on special or extra duty, or to hire high priced civilians. To deprive the headquarters of them in the organization does not do so in fact, but merely conceals on paper the loss to the different troops. It is better to acknowledge the matter openly by providing for them. It prevents bitterness of feeling on the part of captains whose men are detailed, and the positions provide places in the way of promotion for meritorious troop blacksmiths, farriers and saddlers of long service.

The three squadron trumpeters also provide a slight advancement for troop trumpeters who can be used as orderlies and strikers for majors without the latter begging such men from captains, always a source of dissatisfaction. Some officers may think that the major, with his squadron sergeant major, squadron quartermaster and commissary sergeant and squadron trumpeter has quite a large staff, but it is a much better one than the present with a squadron adjutant, squadron quartermaster and commissary, each with the major having a striker detailed from troops, while a trumpeter is detailed for squadron headquarters besides.

The regimental printer saves a detailed man.

The regimental clerk, one of the most important and most trusted men in the regiment, who must necessarily be familiar with many private matters concerning officers and the regiment in general, saves another.

The six orderlies save possibly the detail of more than their own number. They should be selected old soldiers, good riders, good scouts and good shots. In the stables of the non-commissioned staff and band more than half the horses will not belong to the band and therefore should not be cared for by the band. The horses of all field and staff officers will be there, as well as those of a number of non-commissioned staff officers, such as the sergeant major, quartermaster sergeant, etc., who will usually not have time to attend to them. Somehow men must be obtained to take care of these horses. Now, they are deliberately taken from troops, and neither the men like the job nor the captains the details. Here again it is better to acknowledge facts and provide for such men in the beginning as a part of the headquarters force and avoid letting captains feel that they are deprived of men.

The number of band musicians is not changed. Only four are to be sergeants, however, and these are to be real sergeants, for administrative and disciplinary purposes. Twenty are privates, graded into three classes of musicians, with different pay for each class. The device of calling a man a sergeant or corporal in order to give him the pay of those grades is unmilitary and degrades the military title. A military mind can never assent to it. Besides, because musicians are now dignified with such titles, there are not enough privates left in a band to do work which cannot be required of non-commissioned officers. There are too few privates for the daily kitchen police, room orderly, stable police, stable orderly and other fatigue duties. There are too few to groom extra horses and to go on band herd guard duty. It is not only militarily correct but better in every way to call them just the plain musicians they actually are, with the rank of private and require them to do private's duty.

If two cooks are now needed for a troop of sixty-five men, they are also needed for the fifty-seven non-commissioned staff and band as proposed. In the field the non-commissioned staff may often have to separate from the band when there should be a cook for each. If they remain together, the field and staff officers, including the chaplain, veterinarians, and perhaps one or two surgeons, may have to mess with them, as well as attached hospital corps men. Two cooks will then keep things running smoother at headquarters, while in barracks they will make necessary one cook's police less, who will then be available for

band practice and concerts. No organization needs every available man more than a band when it has to play.

A band wagoner makes one more musician available and saves a detailed man or a weakened band.

The reasons for having a quartermaster sergeant to look after the band property, the forage and messing, are manifest. The addition of such a non-commissioned officer is one of the things that insures smoother working and more contentment worth far more than the additional expense involved.

With such a non-commissioned staff and band it must be apparent why an assistant to the adjutant, who will fill toward the adjutant the place of subaltern to a captain, is advisable and desirable. Every adjutant has a hard time in trying, alone, to attend to all his office work and at the same time act as troop commander for the non-commissioned staff and band. An assistant is equally desirable for the quartermaster with whom to divide the outdoor and indoor work and police of the post. This assistant could be ex-officio police officer and save such a detail from a troop. The commissary has less exacting work but should be a good business man and ex-officio post exchange officer.

The adjutant, quartermaster and commissary should each receive the pay of captain mounted; the assistants the pay of captain dismounted. The work and responsibility devolving upon them is worth it. The extra pay will make the places sought by the best officers and will make even indifferent ones try to obtain and retain them. At present no cavalry captain gets extra pay as a regimental staff officer and therefore the work and responsibility connected with those positions are not sought. A colonel also injures his best troops when he takes from them their captains and puts them on his staff.

The proposed composition of the troop is as follows:

1 first sergeant;

1 quartermaster sergeant;

1 commissary sergeant;

6 sergeants;

8 corporals;

2 cooks;

2 farriers;

2 blacksmiths;

- 1 saddler:
- 2 wagoners;
- 2 trumpeters;
- 2 clerks;
- 78 privates;
 - Total: 108.

The propriety of a troop commissary sergeant, not provided for at present, is apparent. He would have charge of the rations and messing.

The two farriers and two blacksmiths will be needed in troops of 108 men, especially in mountainous and rocky country. Often a troop must be split up into two or more detachments in which case the farriers and blacksmiths will be required for distribution among them.

Two wagoners are also needed for the large troops. They will get the manure removed from the stables quicker than one wagoner; there will remain more hours after cleaning the stables for the stalls to air and dry out; forage can be handled in half the time and the stable police will finish their work sooner, and in more workmanlike manner, instead of dawdling all day.

The troop paper work will be increased, and hasty work causes mistakes, neglects and omissions. Time and paper work correcting errors in the adjutants' office will be saved through having two clerks in each troop who have the lesiure to be careful and do their work well. One important reason for having two clerks, as well as two farriers, two blacksmiths and two wagoners, is that one at least will almost always be available for drills and field exercises, so that by alternating each would attend at least half the time, while with but one man of each class in a troop the opportunities for such instruction would often occur less frequently. This is a condition that must appeal to every one who has ever commanded a troop.

As above constituted the regiment would have the following enlisted men:

Non-commissioned	staff and band 57
Six troops	648
	to distance with
Total	705

Total for eighteen regiments, 12,690 enlisted strength.

The last Army Register, 1905, shows the cavalry arm as having 12,700 enlisted men. The one for the year previous shows a less number.

The whole organization would be as follows:

18 colonels;

18 lieutenant colonels;

54 majors;

216 captains;

306 first lieutenants;

144 second lieutenants.

756 officers. Present organization, 750.

18 chaplains;

36 veterinarians.

18 regimental Sergeant majors;

18 quartermaster sergeants;

18 commissary sergeants;

18 chief musicians.

18 regimental blacksmiths;

18 regimental saddlers;

18 regimental farriers;

18 regimental printers.

18 regimental clerks at \$20.00 per month.

54 squadron sergeant majors, at present pay.

54 squadron quartermaster and commissary sergeants, at pay of first sergeant.

Pay as at present.

at \$18.00 per month.

36 color sergeants, present pay.

18 chief trumpeters at \$18.00 per month.

54 squadron trumpeters at \$15.00 per month.

108 regimental orderlies at \$15.00 per month.

18 principal musicians at present pay.

108 first sergeants, at present pay.

18 drum majors, at present pay.

108 musicians, first class, at \$17.00 per month.

108 musicians, second class, at \$15.00 per month.

144 musicians, third class, at \$13.00 per month.

720 sergeants.

126 quartermaster sergeants;

108 commissary sergeants;

864 corporals;

252 cooks:

540 saddlers, farriers and blacksmiths Pay as at present.

216 clerks at \$16.00 and \$18.00 per month.

234 wagoners

216 trumpeters

8,424 privates

Pay as at present.

12,690 total enlisted.

As above organized, the pay of the whole cavalry arm will amount to about \$100,000.00 more yearly than at present. It must be remembered that the above rates of pay are based on on the rates in force in 1905. The economy appears in the cost of barracks, stables and supplies. There are barracks and stables to be provided for the noncommissioned staff and bands of the three extra regiments. On the other hand there are but 108 troops to be sheltered as against 180 at present. At Fort Assinniboine. Montana, where there are sets of double barracks, each double set has cost the Government about \$45,000 for construction and remodeling. Each set accommodates two troops of sixty-five men each. For \$55,000.00 each could have been built, or built and remodeled* to hold two troops of 108 men each. Six sets of double barracks for twelve troops of sixtyfive men each have cost \$270,000.00 Three sets of double barracks for six troops of 108 men each would cost not more than \$165,000.00, a saving of \$105,000.00. There also would be a saving in constructing six stables for six large troops instead of twelve somewhat small stables for twelve small troops. The saving in cost of construction of first class barracks and stables for eighteen Regimental Posts would more than balance the increased cost for pay for twenty years. There would be fewer

The old barracks at Ft. Assinniboine had just been remodeled with increase of interior space, and the introduction of steam heat, baths, lavatories, etc.

kitchens, fewer utensils, fewer fires, and a yearly saving in fuel and light which alone would perhaps exceed the increased pay. The saving in material and labor for the constant repairs on fewer barracks and stables would also be a large item.

The fewer organizations would require fewer printed blanks and government publications. In fact in about every respect. except in the matter of pay, the proposed plan would be more economical and as a whole much less costly, while the concentration into fewer organizations would facilitate the dispatch of administrative business. The six troop morning reports could be consolidated in half the time required for those of twelve The details by roster for six troops would be expedited in like manner. While the cases of individual men requiring attention would not be much reduced and the troop muster and pay-rolls, reports, returns, requistions, and books would require more time, the captains would each have two clerks to keep up this work, while that in the office of the commanding officer would be very greatly reduced, giving him time to get away from his desk to look about the post and to observe his officers at their duties.

A colonel, like a captain, must know those under him in order to command them most effectively. He must make himself acquainted with the qualifications of his officers, and know personally the non-commissioned officers and old privates as well as the horses they ride. In fact there is a great deal of knowledge he should have that he can only gain by frequent personal contact with, and observation of, his officers and men which will increase their confidence and respect for him and his influence over them. But, tied up with the paper work of twelve weakly troops, he is confined to his office all day, and hardly knows his non-commissioned officers by sight. There is an old theory that the size of a regiment should depend on the number of men that the commanding officer can control with his voice. It should depend upon the number that, with a favorable organization, he can properly look after out of doors as well as through his adjutant's office. When we have bought a number of small parcels, we often find we can handle and carry them more conveniently by wrapping them up in several large parcels. Small troops are merely picayunish time and energy wasters.

A troop with an authorized strength of sixty-five men has an average actual strength of about fifty-five. These fifty-five men will have about the following number unavailable for an emergency on any one day, viz.:

2 sick:

2 in arrest or confinement;

4 absent—either with or without leave, or at school at Fort Riley, or in Hospital at Hot Springs, or in hands of civil authority, or awaiting trial or sentence at a distant post, or on detached duty:

7 on extra or special duty detailed by post order;

1 non-commissioned officer in charge of quarters;

1 room orderly;

2 cook's police;

1 stable orderly;

2 stable police;

3 on guard;

3 old guard fatigue;

3 recruits;

Total: 31.

The remaining 24 is about the number to be counted on for drill, that is 44 per cent. of the troop.

In the same ratio, a troop with an authorized strength of 108 men would have an actual strength of 91. The details of non-commissioned officers in charge of quarters, room orderly, and stable orderly, would be exactly as for the troops of fifty-five men. The other figures would be larger, bringing the total unavailable up to about forty-seven men, although it is likely that with the non-commissioned staff and band organization proposed the men on extra and special duty would be proprotionately less. This would leave 44 men available, or 48 per cent. In the present organization there are 180 troops. With 24 men available in each, we would have a total of 4,320. In 18 regiments of six troops each there would be 108 troops. With 44 men available in each we would have a total of 4,752, a gain of 432 men in the arm. And this gain is exclusive of strikers and orderlies for the field and staff.

Among 78 privates it ought to be much less difficult to find men fit for non-commissioned officers than among 42 privates. Reasons in favor of the proposed plan can be multiplied by any one who will only reflect.

Now as to correcting the scarcity of officers. The organization provides for thirty-seven captains and lieutenants in each regiment. Assuming that about forty per cent. of these are habitually absent which has been the percentage in my regiment in the past year, about twenty-three will be left with the regiment. Subtracting from these the five regimental staff officers we shall have left eighteen officers for six troops, or three officers to each troop, with the prospect that every troop shall fall under the command of an officer of considerable experience and never under an inexperienced second lieutenant. All officers of much service with troops must appreciate the disciplinary value of the above facts.

Of course in the proposed organization a major is to command two troops which he can handle much more easily and accurately than the four elusive fractions now assigned to him. I would, if I had anything to do with the nomenclature, substitute the word "squadron" for troop where it appears above, and "battalion" for squadron. In all countries, except ours, the squadron corresponds to our troop, to the company in infantry and to the battery in artillery. To call any one of our troops a "troop" instead of a squadron and four troops a squadron, is like calling a company of infantry a platoon and a battalion a company. The English formerly had two troops, like ours, which they combined in an organization they called a squadron, which we copied but which they long ago abandoned. The following quotation is from the army book of the British Empire, pp. 195–6:

"The Squadron System.—An easy revolution was effected in the regimental organization by the introduction, on the 1st March, 1892, of the squadron system, long since in use amongst European Nations. The system had been tried in 1869 but was abandoned, for we find 'Troops' again adopted in 1870; that is we went back to the old pattern of Gustavus Adolphus, who was the first to divide his regiments into eight troops. These eight troops, under their own captains, were entirely independent as

regards interior economy, but closely combined into four squadrons during drill and maneuvers in the field. Were it not for the known disinclination of the British nature to adopt changes it would be hard to understand how this arrangement could have lasted so long.

"Instead of having small units equally divided between all the majors and captains, some having considerable service and others very limited experience; in place of a squadron commanded in the field by one or two officers, each of whom in barracks was entirely independent of the other, we now have a considerable body—a squadron—under one commander, whether in the field or in quarters, a senior officer, responsible to his commanding officer, with a double interest in his command, and having for his assistant, as second in authority, a junior captain of sufficient service whose ties and associates with the squadron are only inferior to those of the commander himself.

" * * * What, however, is really the essence of the change from the troops to the squadron system is this: Every squadron commander is an officer of experience in the captain's rank and qualified to be intrusted with command; he is one to whom the colonel can confidently delegate powers, consequently the maintenance of discipline is to a much greater extent his personal concern than it was that of the captain under the troop organization."

As to the size of the regiment under the proposed plan, it is about right. It is as large, with its animals, as a colonel can well handle and the staff provide for in the field. If larger, there would be too great temptation for some generals to divide and scatter it. Nor should it be reduced. On the outbreak of war the troops should be increased to a strength of about 125 men, the increase being made up of old soldiers or good riders. One educational advantage of the organization is the opportunity it gives a young officer to drill, maneuver, and handle about twice as many men as he can with the present organization.

The only objection I can imagine that may be offered to this plan is that other arms will urge that it gives the cavalry an advantage in promotion. So far as that goes, I see no objection to a similar concentration and organization for the infantry,

with very much larger companies in time of war. There is no reason why we should blindly follow a foreign system of four company battalions with regiments strong as our brigades. If I am not mistaken, I have often heard that in the Civil War there was an advantage in our comparatively small and handy infantry regiments that we handled as battalions, but the mistake was made by the North in putting too few together in brigades, so that we had too many small brigades, divisions and corps, while the South had fewer and larger brigades, divisions and corps, which was a better organization.

As for the field artillery, I can imagine no argument for any regimental organization stronger than those that can be advanced for a regiment of six four-gun batteries, with two batteries to each major. Two such batteries of horse artillery would be just right to accompany a cavalry brigade, and the whole regiment of twenty-four guns would fit right in with a cavalry division of three brigades.

To the practical cavalry officer, I think there can be no question of the improved disciplinary conditions that would result in the cavalry arm from the change mentioned.

Indorsement from the War Department of the above report.

"Referring to your letter of December 13, 1905, submitting a plan for the reorganization of the cavalry arm, I am directed by the Chief of Staff to inform you that your plan has been carefully considered by the Cavalry Committee of the General Staff, and that the Committee reports as its opinion that while the proposed reorganization scheme contains suggestions of undoubted value, the time is not now opportune for recommending a reorganization of the cavalry arm."

THE SAN PATRICIO BATTALION IN THE MEXICAN WAR.*

By G. T. HOPKINS.

I / HILE General Taylor's army was lying across the river from Matamoras, a great many desertions took place. You will find a note on this point in General Cadmus E. Wilcox's "History of the Mexican War," although he fails to give the reasons. Just what was the impulse which led these deserters to abandon our forces does not seem to have been recorded in any historical work or document, but here and there I have learned from sources both American and Mexican, that General Ampudia employed means calculated to undermine the allegiance of foreign-born enlisted men; for instance, it was insinuated to them that the attitude of the United States towards Mexico was merely a masonic plot to destroy the Catholic religion in that country, and that if they bore arms against Mexico they would be waging war against their religion. At the same time offers of land and money were held out to these men, with the result that many of them entered Ampudia's lines.

These notes have been furnished us by Captain Frank McCoy, General Staff, U. S. Army, as being of great historical interest. The only reference to this matter that we have been able to find is the following from Wilcox's History of the Mexican War, pp. 394-5:

"In the battle of Churubusco among the many prisoners captured was the San Patricio battalion. They were tried by a general court-martial and sentenced to death, all but sixteen being executed; some were pardoned on account of youth when they deserted, two were pardoned because their sons or brothers had remained true to the flag of their country, and O'Riley having deserted before declaration of war, was not condemned to death, but was branded with the letter 'D' on his cheek." — Editor.

[&]quot;*The companies of Dominquez, deserters from the Mexican Army and regularly enlisted in the United States service, and of San Patricio, deserters from the American Army on the Rio Grande, mostly of European nativity, and enrolled in the Mexican service with O'Rliey as captain, first met in battle in the Convent of Churubusco, and the scorn with which they regarded and the ferocity with which they attacked each other, was a forcible illustration of the odium attacked to treachery, even among traitors. Both companies fought bravely and neither seeking nor asking quart er, many were killed."

Among these was John Riley, or Reilly, of Company "K" Fifth U. S. Infantry, who, under pretext of going to mass to be held by a priest on the Texas side of the river, secured a pass for that purpose and immediately crossed the river. This was early in April, 1846, before war had been declared, and Riley was immediately given a commission in the Mexican army as a lieutenant. He was speedily joined by others, and they organized the San Patricio Battalion. It was also known as "The Foreign Legion" and "The Red Company."

This latter name was applied to it, so I understand, because the men had ruddy complexions and, some of them, red

hair.

They first appeared in action at Monterey, and again near Saltillo, where they were employed with the Mexican artillery forces. Nothing seems to have been heard from them thereafter until the battle of Churubusco. It seems that, meanwhile, they were brought to Mexico City and were recruited up by the enlistment of some other foreigners (not deserters) and also by the appearance of more American deserters from General Scott's army then occupying Puebla. These latter deserters were of the same stripe as those who had previously abandoned their colors, all foreigners, with the exception of one or two who were legitimately captured while drunk and forced into the battalion. These men were afterwards, when captured, pardoned by General Scott.

On August 20th when the Americans were storming the Convent of San Pablo, at Churubusco, they encountered the San Patricio Battalion in the tete-de-pont close by which defended the stone bridge crossing the river. This work was speedily taken, and the San Patricio Battalion captured.

Of course, a great many escaped, and some of the captured were legitimate prisoners of war. The number of deserters captured was sixty-four. Within a few days thereafter General Scott, by General Order No. 263, convened a general court-martial for the trial of twenty-nine of these men, all of whom were convicted and sentenced to be hung. The reviewing authority, on September 8th, following, by General Orders No. 281, confirmed the sentence in respect to twenty, and commuted the sentence of seven to fifty lashes with a raw hide, well laid

on the bare back, and branding with a red hot iron with the letter "D" on the cheek of each. Two were pardoned outright both having been legitimately captured by the Mexicans, and, although forced into the battalion, had refused to fight. Sixteen of the twenty were hung at San Angel on September 10th on the limbs of a large tree which still remains, and by which stands a cross painted on which are a skull and cross-bones, dice and a rooster. I can only figure out that this signifies to the Mexican mind that they took a chance, fought gamely, and got bumped off for their pains. The remaining four were hung on another tree the next day while passing under guard, at Mixcoac. The remaining lot, thirty-six in number, were tried by general courtmartial, pursuant to General Orders No. 259, at Tacubaya All of them were convicted and sentenced to be hanged. The sentence was remitted in the case of two, and commuted to branding and lashing as to five. The remainder were hung at Mixcoac, in sight of Chapultepec Castle, and were allowed, by Colonel Harney, Second Dragoons, to live long enough to see the American flag hoisted over the Castle.

Meanwhile, the Archbishop of Mexico and the clergy, and, indeed, many other persons of some prominence residing in Mexico City, plead with General Scott to save the lives of these men, but without any result whatsoever. Indeed, the General, soon after occupying the Plaza of the Capital, issued General Order No. 296 in which he refers to a plot on the part of certain Mexicans to make trouble.

false priests who dishonor the religion which they only profess for the special occasion. Their plan is to * * * * entice our Roman Catholic soldiers, who have done honor to our colors, to desert, under the promise of lands in California, which our armies have already acquired and which are and forever will remain a part of the United States. Let all our soldiers professing the Catholic religion remember the fate of the deserters taken at Churubusco. These deluded wretches were also promised money and land, but the Mexican government, by every sort of ill usage, drove them to take up arms against the country and flag which they had voluntarily sworn to support, and next placed them in front of the battle in positions from which they could not possibly escape the conquering

valor of our glorious ranks. After every effort of the Generalin-chief to save, by judicious discrimination, as many of these miserable convicts as possible, fifty of them have paid for their treachery by an ignominous death on the gallows."

It seems that when Riley with his San Patricio Battalion arrived at Mexico City, they did some duty in escorting foreigners and non-combatants to places of safety. Some of these men, also, got money from the British Counsul, under pretext that they had no food. When the former discovered that they were in the service of the Mexican government, these contributions were discontinued.

Assisting Riley as officers were Patrick Dalton, Company "B," Second Infantry, and one Batchelder, who does not appear to have been captured. He was probably killed in action, or escaped.

Inasmuch as Riley deserted in April, 1846, prior to the declaration of war, General Scott was unable to confirm the sentence of death in his case, and, therefore, commuted it to lashing and branding. Contemporaneous writers state that Riley did not stand the test very well. As it was he was lashed by a Mexican mule driver, because General Worth deemed it would be too much honor to have him lashed by an American soldier. I have manage to get a peep at the testimony given in their defense by some thirty or so of these individuals, including Riley, and of course they all plead that they were captured and forced into the Mexican service, but which was disproved by the testimony of some of the other foreigners, not deserters, which was taken, notably by an Irishman, named O'Connor, and an Englishman by the name of Wilton, who knew the whole story from beginning to end. I find that there was also another officer, not a deserter, Captain O'Leary, who was badly wounded as a result of an explosion of amunition at the tete-depont.

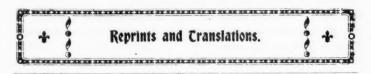
This is about all the information I have up to the present time, but I am following the matter up during unoccupied moments, and before I get through with it expect to have every detail.

Meanwhile, I enclose a list of names of those deserters arranged by organizations, which may be of interest.

DESERTERS FROM U. S. ARMY, 1846, WHO JOINED MEXICAN ARMY AND WHO FORMED THE ST. PATRICK COMPANY. THE FOLLOWING WERE CAPTURED AT THE TETE-DE-PONT, CHURUBUSCO, AUGUST 20, 1847. FIFTY OF THEM WERE EXECUTED AT SAN ANGEL AND MIXCOAC, SEPTEMBER 10 AND 13, 1847.

Names.	Co.	Regiment.	Remarks.
Henry Logenhamer	F	2d Dragoons	
Henry Venator	I	2d Dragoons	
Francis Rhode	I	2d Dragoons	
John Klager	K	2d Dragoons	
Fredk. Fogal	K	2d Dragoons	
Geo. W. Jackson	H	1st Artillery	
Wm. O'Connor	K	1st Artillery	
Richard Hanly	A	2d Artillery	
John Appleby	D	2d Artillery	
Geo. Dalwig	K	2d Artillery	
Barney Hart	K	2d Artillery	
Thos. Millet	D	3d Artillery	Commuted to lashing and branding
Hezekiah Akles	H	3d Artillery	Commuted to lashing and branding
John Bartely	H	3d Artillery	Commuted to lashing and branding
Alex. McKee	H	3d Artillery	Commuted to lashing and branding
R. W. Garretson	H	3d Artillery	
John Bowers	H	3d Artillery	Commuted to lashing and branding
M. T. Frantius	K	3d Artillery	
Henry Mewer	D	4th Artillery	Sentence remitted.
Henry Octker	D	4th Artillery	
Henry Whistler	E	4th Artillery	
Wm. H. Keeck	F	4th Artillery	
Edw. McHerron	G	4th Artillery	Sentence remitted
Andrew Nolan	D	4th Artillery	
Patrick Dalton	В	2d Infantry	
John Cuttle	В	2d Infantry	
John Price	F	2d Infantry	
Wm. Oathouse	1	2d Infantry	
Wm A. Wallace	В	3d Infantry	
Elizier S. Luck	C	3d Infantry	
Herman Schmidt		3d Infantry	
Thomas Riley		3d Infantry	Branded and lashed
James Mills	H	3d Infantry	Commuted to 50 lashes and branding
Lawrence Mackey	K	3d Infantry	
Francis O'Connor	-	3d Infantry	Recruit
Peter Neill	В	4th Infantry	
Kerr Delaney	D	4th Infantry	
Patrick Antison	E	4th Infantry	,

Names.	Co.	Regiment.	Remarks.
Harrison Kenny	E	4th Infantry	
Roger Hogan	I	4th Infantry	
John Sheehan	G	5th Infantry	
John A. Myers	G	5th Infantry	
John A. Myers	G	5th Infantry	Major St. Patrick battalion
John Reilly	K	5th Infantry	Sentence commuted to lashing and branding
Richard Parker	K	5th Infantry	
Lemuel Wheaton	A	6th Infantry	
Saml. H. Thomas	C	6th Infantry	Sentence commuted to lashing and branding
David McElroy	E	6th Infantry	Sentence remitted
Parian Fritz	F	6th Infantry	
John Benedick	F	6th Infantry	
John Rose	F	6th Infantry	
Lachlin McLachlin	F	6th Infantry	
Patrick Casey	F	6th Infantry	
John Brook	F	6th Infantry	Sentence remitted
Roger Duhan	F	6th Infantry	Sentence commuted to lashing and branding
James Speers	D	7th Infantry	
Martin Lydon	D	7th Infantry	
Dennis Conahan	I	7th Infantry	
Auguste Morsrtaft	I	7th Infantry	
James McDowell	K	7th Infantry	
Gibson McDowell	A	8th Infantry	
Hugh McClellan	A	8th Infantry	
ohn McDonald	A	8th Infantry	
ohn Cavanaugh	E	8th Infantry	
Thos. Cassidy	I	8th Infantry	
ohn Daly		Rifles	Sentence commuted to lashing and branding



CAVALRY IN THE RUSSIAN-JAPANESE WAR.*

Continued from the July, 1913, number of the Cavalry Journal, page 155.

(d) Battle of Sandepu.

The next important part played by the cavalry in the Japanese War was at the battle of Sandepu.

The break in the hostilities which followed after the battles on the Shakhe continued till the beginning of January. During this time the Russian army was increased by three corps which brought up the effective force to twelve corps and two separate cavalry detachments, formed into three special armies.

The cavalry formed part of the armies and numbered 172 squadrons and sotnias (Cossack squadrons).

In the beginning of January the armies occupied the following positions:

Second Army under General Grippemberg (VIIIth, Xth, Ist Siberian and Composite Corps, the cavalry detachment of Major General Kossagovsky and that of General Mistchenko) on the right flank from Syfontsi to Vutchyanin.

Third Army under General Baron Kaulbars (XVIIth army corps, Vth and VIth Siberian corps) in the center from Vutchyanin to the Putiloffsopka.

First Army under General Linevitch (Ist army corps, IId, , IIId, and VIth Siberian corps and the cavalry detachment of

^{*}Translated from a series of articles in the *Voenny Sbornik* by Captain N. K. Averill, U. S. Cavalry, Millitary Attaché.

General Rennenkampf) on the left flank from the Sopka till the Gautulinsky Pereval.

The whole front of the armies was strongly fortified; in front of them they had artificial barriers.

The Japanese armies was disposed as follows:

First Army under General Kuroki, from Bensihu through Vaniapuza up to Fendiapu.

Fourth Army under Nodzu, to the left of the first one up to Kudiatzy.

Second Army under Oku, on the left flank up to Lidiatun. The 5th and 8th divisions, with a few reserve brigades formed the general reserve at Liaoyan.

The right flank was protected by the reserve troops occupying the Vafunlinsky and Dalinsky summits.

The left flank was covered by the cavalry brigade under the command of Akiyama, with two batteries disposed between Hagoutai and Lidiatun, and the cavalry brigade of Tomura, on the right shore of the Hunkhe.

In these positions the Japanese awaited the fall of Port Arthur which promised a considerable increase to their armies. When the fortress fell on the 20th of December, it was expected that towards the beginning of February the army under the command of Nogi would arrive from Port Arthur together with the two reserve divisions which had been sent out from Japan. Circumstances demanded that an immediate attack should be carried out on our part.

The general plan of our attack consisted in striking the principal blow on the enemy's left flank. The whole burden of the attack lay on the IId Army; it was to be supported from the front only when the entire flank would be surrounded. The beginning of the attack was appointed to take place January 12th.

The Ist Siberian corps and the 14th division were ordered to attack the district Chyantan-Buanlatotzy from the west. The Xth corps and the 15th division to support this attack by fire from the front. The Composite Rifle Corps was to remain in reserve behind the right flank. The Ist Siberian corps was assisted by the cavalry of Mistchenko and the Liaohei detachment at Syfontai covered the rear of the whole army.

Late in the evening, on the 12th, the Ist Siberian corps established itself on the left bank of the Hunkhe after a stubborn resistance on the part of the Japanese near the village Hegutai.

Meantime the 14th division advanced slowly towards Sandepu, merely enfilading it with fire. During the day the 15th division and the Xth corps only kept up a slight fire on the Japanese positions, lying before them and entering the villages which had been abandoned by the Japanese, whose troops had been drawn together for the defense of the most important points—Sandepu and Hegutai.

On the 13th a considerable force consisting of several divisions was moved forward against the 1st Siberian corps, obliging the latter to take up the defensive. The fighting troops were supported by the rifle men in the reserve and a hot battle ensued along the whole front.

The 14th division supported by the brigade under the command of Lesh, advanced slightly during the day and even entered Sandepu, but was obliged afterwards to clear the village; towards evening it drove the enemy out of the villages Beitatzy and Siaotaizy, but at nightfall it was forced to leave the same and retreat.

On the 14th the troops were given a rest; operations were limited to preparations for an artillery attack on Sandepu appointed for the 15th of January. The battle was continued only by the 1st Siberian corps, which attacked the villages lying in its front, so as to be able to threaten the Japanese at Sandepu from the rear. After a bloody night fight the corps entered Sumapu.

The inaction of the 15th division and the Xth corps from the front and their inability to move onward in accordance with the general plan of action accepted by the Commander-in-Chief placed the Ist Siberian corp in a very difficult position. Pressed by the superior forces of the enemy the corps was obliged to leave Sumapu, and afterwards, on the 15th, to move back still further, but then the timely support on the part of the Jitomir regiment, sent out from the reserve, allowed it to keep its position and parry the attacks of the Japanese.

On the same day the Xth corps carried on a demonstrative attack on the front and possessed itself of villages Siaotaizy and Labatai. The Japanese position began to be awkward.

On the 16th our troops intended to continue the attack, but towards evening the Commander-in-Chief ordered them to cease the battle and to return to their original positions.

The operation of the cavalry detachment under the command of General Adjutant Mistchenko, consisting of forty-five Cossack squadrons, twenty-four horse artillery and eight horse mountain artillery guns and forming part of the IId Army, were as follows:

The task imposed upon the detachment by the field order on the 12th was "To assist the 1st Siberian corps in its attack on Huanlatotsy and then to cross over to the left shore of the Hunkhe and reconnoiter the locality between the river Taitsykhe and the line of villages Hegutai-Landungau-Tadusampu. But this order was not received in due time and therefore Mistchenko decided to continue the former task set to him, namely, to overtake the column of Japanese forces, which had appeared in the regions of Lokonto opposite the flank of the IId Army; for this purpose setting out in the night of the 11th from Asyniu and Ubaniula, he moved to the south in two columns; the right one under the command of Major General Teleshoff, consisting of the Caucasian brigade, a brigade of the 4th Don division and two horse batteries, and the left one under General Payloff, composed of the Transbaikal Cossack brigade, the 4th Ural Cossack regiment and two horse batteries.

About noon the right column entered into an engagement near the village of Otasiagantzy, occupied by dismounted cavalry. At this moment the above mentioned field order was received, but the battle was already begun and had to be carried out to the end. Mistchenko ordered the left column to march on to Mamakai with the object of taking a firm stand on both banks of the Hunkhe and threatening the rear of the Japanese forces which were acting against the Ist Siberian corps.

The right column was deployed in battle formation, surrounding the enemy from the north, the east and the southeast. The Ural regiment was placed as a screen to the south towards Baidagau, to act against the reinforcement coming up

from Siaobeihe to support the Japanese detachment. The enemy kept his position steadfastly. Seeing that no results were being attained and having in view the task imposed by the field order, General Mistchenko at the coming of twilight gave the order to cease the attack and to move on to the north towards the left column. But while this order was being executed the Cossack squadron of the 25th Don regiment proceeded to attack the position by storm. This attempt was sufficient to make the Japanese take flight, leaving their wounded behind. It was then ascertained that the village was being defended by two dismounted squadrons.

In these proceedings the following is worthy of attention:
The decision of General Mistchenko, namely to march forward to meet the column which was nearing the flanks of the detachment was quite correct. On coming upon the enemy occupying the village the detachment was to dismount and enter into an engagement. At the same time the village was to be surrounded from three sides, which was also well timed. The placing of the screen at the south, to act against the expected reinforcement was also expedient.

The order to the left column to march to Mamakai was necessitated by the desire to secure the crossing of the Hunkhe, which was necessary for the execution of the task, imposed upon the detachment by the field order, and for guarding the operations from being prevented by the Japanese forces on the Hunkhe. This was all. But involuntarily one asks oneself. how is it that during so many hours, from noon till twilight, twenty-four squadrons with two horse batteries could not overcome two dismounted squadrons. This must be explained, in the first place, by the absence of reconnoitering; the length of the line front and the density of the skirmishing line would prove the weakness of the detachment. In the second place, by the reason that after the first shots of the enemy, the whole detachment immediately dismounted, without having made the least attempt to enter into the occupied village by means of a cavalry attack, if not from the front, then from the rear, or at least to take a look at it from the rear. Lastly, by their resoluteness of the action, the partiality for firing and the disinclination to meet the enemy at close quarters. This last is corroborated by the fact, that with the first attempt of attack on the part of only one squadron, the enemy fled.

The method and order of the attack were not of a cavalry nature and did not lead to success even with such an enormous superiority of numerical strength over the enemy. As to the field order there is one circumstance which must be noted, namely, in sending out a cavalry detachment consisting of forty-five squadrons with twenty-four guns to attack an enemy concentrated on the flank of the detachment with movement in advance, the task set was vague: "To assist the Siberian corps in his attack" and the second task more precise: "To reconnoiter the locality in the stated region," thereby making this latter the chief object, whereas it ought to have been done of itself.

The detachment of General Kossagovsky covering the right flank of the army attacked at the same time Mamakai and Tchitaizy, thus securing the safety of General Mistchenko's detachment while crossing the Hunkhe.

On the 13th, for the purpose of carrying out the task contained in the field order the detachment of General Mistchenko proceeded to the left bank of the Hunkhe, while the left column which was directed to the river Shynzia, was ordered to enter into connection with the Ist Siberian corps, and the right moving to Santiazu was ordered to send out patrols to the east towards the railway line and to the south, towards the river Taitsykhe.

At one o'clock the left column entered into an engagement with the enemy near the village Hinge, but could not bring it to an end, because it received the order to join the right column which had been also stopped by the Japanese.

At two o'clock the right column encountered the enemy near Santiazy. A horse battery under the protection of the 4th Ural regiment opened fire from the front, while the Caucasian horse brigade galloping around to the village from the south, vigorously attacked the Japanese from the flank and put them to flight. While pursuing the fugutives, part of the right column took possession of the village Suerpu, but their further advance

was stopped by fire from Tunhenpu, which necessitated the recalling of the left column. The Japanese taking advantage of the darkness evacuated this village also.

In the night from the 13th to the 14th General Mistchenko ordered the left column under the command of General Telesshoff to send out scouting parties to the north, northeast and east; the right column under General Pavloff to send scouts to the east and southeast; and from the Caucasian horse brigade, to the south. The position, however, was not elucidated, but rather by reason of false information it became more unintelligible.

At 9 o'clock in the morning on receiving information that Sandepu was occupied, General Mistchenko based his further operations on this news; he threw himself with his entire detachment to the northeast of Suerpu to pursue the enemy, who was said to be retreating towards Landungau. Taking rapid possession of Suziaopa, he advanced with the Caucasian brigade towards Landungau, but on discovering the presence of a large infantry force at this point, he decided to concentrate the whole detachment in this spot and meanwhile opened an artillery fire upon the village. But the Japanese took up the attack on their own part, and made for the battery. The latter, having fired all their cartridges was silenced. To stop the Japanese General Mistchenko ordered the Daghestan regiment to attack them from the rear, but at this moment he was wounded. The Daghestaners rushed on to the infantry and attacked their battery, but coming upon a ravine, they were obliged to retreat.

Meantime the remaining parts of the detachment had come up; they had been moving to the north for the purpose of coming into contact with the Ist Siberian corps and in common with the latter had attacked the v. Tsuisiapu, when they received the order to hasten to Landungau. The Japanese, however, deploying a considerable force, commenced an energetic attack. Towards nightfall the cavalry detachment was concentrated near Suerpu.

On the 15th the villages near the halting places of the detachment were all occupied by the Japanese infantry. This circumstance obliged General Teleshoff, who had replaced

General Mistchenko when wounded, to endeavor to drive them out from the villages. The cavalry detachment was deployed in dismounted battle order for an attack on Tunhenpu, when the order was received from the Commander-in-Chief of the IId Army to give assistance to the Ist Siberian corps in the direction of Sumupu and Santsianpo, where considerable forces of the enemy were concentrated. General Teleshoff was obliged to change front to the north under cover of part of the detachment on the right flank from the side of Tunhenpu. All day long the battle with the infantry occupying the villages continued. The Japanese having received reinforcement and increasing their artillery fire several times endeavored to attack the cavalry detachment, but each time their attacks were repulsed owing to the machine guns of the Terek-Kuban regiment. The battle ceased with the fall of darkness and the detachment passed over the night to the village Hinge.

By order of the Commander of IId Army, on the 16th, the cavalry detachment was ordered "to carry out the most detailed reconnoitering for the purpose of establishing the forces of the enemy acting against the Ist Siberian corps and if possible of those acting against the Composite Rifle Corps." However, immediately afterwards the order of the Commander was given to stop all attacks, and the troops of the IId Army were to resume their former positions. The reason for this was the information received concerning the threatening operations of the Japanese who were contemplating an attack en masse on the IIId Army. The losses in the cavalry during the four days were 14 officers and 233 men.

In these attacking operations the cavalry was destined to develop independent action and this case was, one may say, the most important occasion for the display thereof during the

whole campaign.

Ir criticising the actions of the cavalry at Sandepu, and beginning from the setting of the task, I must remark again, that in this case the object of the operations in the sense of assisting the infantry to win the battle was not expressed precisely in the general expression: "To assist the Ist Siberian corps in his attack" and was quiet clearly defined in respect to

the carrying out of reconnoitering, which again was made of superior importance.

After imposing the general task, the Commander of the Army only hampered the freedom of action of the chief of the detachment by his further instructions as to the direction of the cavalry, which was in the rear of the enemy's army on the 15th. It is difficult to exact one or another line of direction when the chief is in the rear of the enemy with his detachment. His action must depend wholly on the circumstances with which he is surrounded. All that the Commander can do in this case is to keep the chief of the detachment informed of the state of affairs in the front and of his next intentions.

On the first day, January 12th, the detachment moving to the south in search of the enemy's column, which had been said to have made its appearance, marched about twelve versts and had a skirmish. After that, the next day in obedience to the field order, the detachment turned to the east and moved deeper into the rear of the enemy, marching in the course of two days about twenty-five versts to the east.

Thus in three days the detachment marched about forty versts. On the fourth day the detachment was deployed in battle formation with the front to the north and entered into an engagement with the enemy's forces in that region, so that he could not move further.

Therefore, during these days but a very small distance was passed. It is true, the detachment had before it the enemy's forces occupying the surrounding villages, against which he had to fight dismounted, but still the fact must be explained by a certain irresoluteness and slowness of action on the part of the cavalry, which deserves rebuke.

In the above description it was seen how irresolutely the Cossacks acted, on January 12th, in the battle between twenty-four squadrons with artillery and two dismounted Japanese squadrons. This irresoluteness was observed also by General Mistchenko, who says in his order of the 13th: "Yesterday the troops seemed to hesitate before the enemy. It is necessary to act with energy and courage, remembering that a general battle is going on."

Was there any necessity during the succeeding days to enter into a lenghty engagement with the infantry, which evidently was only forming a screen? The fight in dismounted order in this case was quite expedient and necessary, for the purpose of attracting as many forces as possible. The ominous roar of the guns, the rattle of the musketry, sounding in the rear of the line of battle, even without substantial results, are apt to attract attention, to arouse anxiety, oblige one to look back, excite hesitation; this is inevitable, it is in the nature of mankind; consequently a cavalry force rushing on to the rear of the enemy during a battle must make as much noise as possible to create confusion, make a moral impression, and for that purpose must commence a dismounted battle. But during the development of a fight, in each special case, would it not be better, if profiting by the advantage in the speed of action the cavalry were to commence with the infantry, especially if the latter is entrenched or placed at the outskirts of local objects, a rifle battle from the front and to attack it from the rear on horseback without losing time or force in the methodic development of dismounted fighting. Such a course of action would be more suitable for cavalry. With no danger of being cut off it would better correspond to the nature of a dismounted combat.

In the battle of these days there was a combined action of mounted and dismounted formation, mounted attacks of the Daghestan regiment on the battery and on the rear of infantry lines, but in the rear of infantry attacking cavalry, not defending local objects. The attack on the part of the infantry was called forth by the absence of resolute action on the part of the cavalry. At all events one can only approve of the application of cavalry attacks, a very rare occurrence during this war, in which the cavalry showed a special partiality to dismounting. At all events by rushing to the rear of the enemy and comencing a combat there, the cavalry detachment attracted part of the forces, diverting the same from the fight at the front and thus greatly assisting the 1st Siberian corps.

In general the operations of the cavalry corps under the command of General Adjutant Mistchenko at Sandepu present a splendid example of the fighting action of the cavalry, and if it did not attain any decisive results, it was only owing to the absence of the requisite contact with the combat going on at the front and the extremely slow fighting of the VIIIth and Xth corps.

On the next day after the retreat from Sandepu it became clear that the Japanese had not concentrated their forces opposite our centre with the object of breaking through the latter and it was decided to repeat the attack in the same order. But whilst preparations therefor were going on, the Japanese Commander-in-Chief having received the last reinforcement took the initiative into his own hands and took up the attack himself. This led to the battle of Mukden, a battle unrivalled for its duration and cruelly stubborn resistance of both sides.

During the whole period of the battle of Mukden it is interesting to follow the operations of the cavalry concentrated on the right flank of the army, as the rest of the cavalry, which was disposed on the mountains, could not develop its activity and its operations were limited only to serving the infantry parts, the cavalry acting only in dismounted order in connection with the infantry.

(e) Period of the Battle of Mukden.

Immediately before the battle the Russian Armies occupied positions along the line of Syfontai-Tchantan-Judiatai-Lashanpu — Shakhepu — Shanloidze — Erdagu — Kandolisan — Gautulin-Pereval over a distance of ninety-five versts. The troops were in immediate contact with the enemy occupying positions on the line of Vaniapooza-Fyniapu-Lidiatun-Sandepu-Tautaitzy. On the right flank of our disposition was the IId Manchurian Army, whose cavalry extended to the river Liaokhe. Opposite the same there was the IId Japanese Army from the river Hunkhe to Lashanpu, forming the left flank of the Japanese disposition. Beyond its left flank, in the environs of Siaobeikhe, was concentrated the IIId Japanese Army under General Nogi, the front of which was covered by the 1st and 2d cavalry brigades under the command of Akiyama; this army was destined to turn the right flank of the Russian Army. Our IId Army was composed of eighty squadrons with twenty-four horse batteries. On the 4th of February our Commander-in-Chief obtained information concerning the intentions of the Japanese to attack the railway, and he sent out

to the rear the 4th Don division, with the Don battery, and four squadrons of frontier troops, weakening thereby the cavalry by twenty-eight squadrons and six guns. To replace these the Commander-in-Chief reinforced the IId Army by means of the 2d special cavalry brigade and the Amur and Ussuri Cossack regiments, but these forces arrived considerably later.

The army cavalry was placed under the command of General Rennenkampf. In the beginning of February the right flank of the IId Army, the Composite Rifle Corps, was disposed on the right bank of the Hunkhe, on the line Tchantan—Tchandio-pa—Hezuanza. The army cavalry corps was placed on the right flank of the army along the line Udiatur—Ubaniula—Tsyiuto, that is to say, at a distance of twelve to fifteen versts from the flank of the infantry and about on the same line as the latter. This cavalry corps placed a protection between the rivers Hunkhe and Liaokhe, from Siaodamyn to Kalama. The cavalry was thus beyond the flank of the Japanese Army, with a free space before it between the above mentioned rivers, but its advanced parts were not in contact with the enemy, and, therefore, could not follow his movements.

The absence of information concerning the enemy and ignorance of his forces occupying the region of Siaobeikhe induced the Commander to order the cavalry of the right flank to clear the right shore of the Hunkhe of the enemy's troops and to carry out energetic scouting in the regions of Siaobeikhe and Liaoyan, also to the south of Siaobeikhe, between the rivers Hunkhe and Liaokhe, to ascertain what troops were disposed there. In this case, therefore, the cavalry did not show personal initiative.

In carrying out the order, on the 1st of February, Lieutenant General Rennenkampf moved with the Ural-Transbaikal division, the Caucasian cavalry brigade and the 19th, 25th, and 26th Don regiments to the south, turning the left flank of the Japanese. On the same day he reached Santinza at a distance of twelve versts from Siaobeikhe. Small parties of the enemy retreated before him, so that our troops moving to the east, to the front line Liaoyan—Shakhe came upon the railway line without encountering the enemy. The next day the detachment advanced five versts to the south, drove back six Japanese

squadrons, reconnoitered Siaboeikhe, and by means of artillery fire drove away an infantry column of the enemy which had made its appearance. After this, on the 3d of February, the detachment moved on to Maimakai, but on receiving the order to dispatch the Don division towards the north, to Guntchulin, it ceased the reconnoitering and turned back. The departure of the 4th Don division weakened the forces of the detachment and prevented them from carrying on the reconnoitering to the end. The position of Nogi's army remained unknown. The scouting operations proved, however, that Siaobeikhe was occupied by infantry troops forming the left flank of the army, all the villages to the north being also occupied by the enemy, whereas the space to the south of Siaobeikhe and between the Hunkhe and Liaokhe along a distance of twenty versts was free.

From the 5th till the 10th of February the above mentioned attack of the four squadrons under the command of Colonel Gillenschmidt took place in the rear of the Japanese army with the object of demolishing the railway line and this being successfully accomplished led to the blowing up of the Haitchen bridge. The detachment returned, having obtained some information regarding the disposition of the enemy.

On the 12th of February, General Rennenkampf was ordered to move to the left flank of the army, and the command over the cavalry on the right flank was entrusted to General Grekoff who had been temporarily commanding the Ural-Transbaikal division; the command of the latter was transferred to Major General Pavloff. The cavalry of the IId Army after the departure of the Don division consisted of thirty-two squadrons and eighteen guns, of which the right group, fifteen squadrons and twelve guns under the command of General Pavloff guarded the locality between Kalama and Siadomyn with a reserve force at Ubaniulu, and the left group, seventeen squadrons and six guns, under the command of Major General Eicholz, protected the locality from Siadomyn up to the flank of the Rifle corps with a reserve force at Syfontai.

With the return of the cavalry detachment the contact with the enemy was lost again and this circumstance enabled the latter on the 11th to group together on the right bank of the Hunkhe, unnoticed by us, parts of the turning columns of the army of Nogi. These parts were only discovered by the cavalry on the 14th, when they came upon the advanced posts of the cavalry. This fact proves how unreliably the observation on the flank of the army was carried on. With the first news of the approach of the Japanese forces the Ural regiment was ordered to occupy Kalama and to extend its observations on the right bank of the Liaokhe up to the Sinmitin road, but while on the way thither the regiment received another order from Major General Pavloff to support him by covering his right flank. When the regiment arrived in the evening, Kalama proved to be already occupied by a Japanese detachment consisting of three sorts of arms, and our regiment was unable to cross the Liaokhe. Besides, the Japanese were advancing on the cavalry from the south as well.

On the 15th Major General Grekoff decided to attack the enemy at Kalama, with the reserve brigade occupying Syfortai. The Ural regiment was sent ahead, but before reaching Kalama it encountered a battalion of Japanese infantry and after an

exchange of shots it retreated without losses.

Major General Pavloff was ordered on the same day to move with nine squadrons and four guns from Ubaniula to the south towards Ludigantaza and Fansandi. Meeting with considerable forces of the enemy Pavolff took up a position with dismounted forces at Fansandi, but was forced to retreat towards Sandiotsy. His losses on that day were one officer and six Cossacks. It was ascertained then that considerable forces of the enemy were advancing towards the front of our armies and were turning our right flank.

Major General Grekoff with a reserve force of nine squadrons and the 20th horse battery, moved on to Kalama after the Ural regiment. Finding it occupied and noticing a movement on the part of the Japanese to the north, he turned to the north intending to cut off the heads of the columns, but afterwards deeming it unwise to go too far north he left this task to the Ural regiment alone, and himself with the remaining squadrons turned to the north-east, to Syfontai, that is away from the flank of the army thus allowing the enemy to turn

him; that is to say, he stopped in an enclosed space before the front of the enemy, instead of staying on the flank of the same and enjoying full freedom of action. The 5th Ural regiment retreated towards nightfall to Piediauaupu, where it halted with the front towards the west and north-west. The right wing of General Pavloff put out a protection along the line Lanhopu—Hacopinusi; the reserve forces of General Grekoff haltedforthe night at Erdagou; the left wing of General Eichholz was also forced to retreat to the line Hacopinooai—Tchandiapa. Thus the task given to the cavalry to occupy Kalama, and to pass over and carry on the observations on the other side of the Liaokhe, was not accomplished. By retreating to the north before the enemy and gradually drawing back the right flank the cavalry was outflanked on the 15th and pressed close to the right flank of the general disposition. In the reserve parts one Cossack was wounded on that day.

During the last two days the cavalry detachment learned that near Kalama a force of not less than one infantry division had broken through to the north, the head of which towards the evening of the 15th reached the parallel of Davangapu, that is our right flank had been turned at a depth of twenty-five versts; from the south about ten battalions were advancing towards Syfontai and had already reached Toohanchipu—Tootaitsy. In other words, it was clear that the Russian Army had been outflanked by considerable forces.

The action of the cavalry during the period described may be commented on as follows: The cavalry detachment although placed aside from the infantry flank at a distance of fifteen versts, was disposed nearly on one line with the same and its operations were only passive. In covering the flank of the army, occupying a fortified line along a front of ninety-five versts, the cavalry ought certainly to have moved on from the side of the flank and advancing forward have established a contact with the enemy, so as to follow all his movements. Only in such case could the cavalry properly warn the army of all that was going on. As regards the manner of carrying out the reconnoitering service the same did not answer the purpose either. The cavalry detachment remaining on the same line as the infantry, sent on ahead a line of protecting parts along

a front of thirty-five versts. What a number of men were required for such a long front; how the forces of the detachment were weakened thereby; and, at the same time, how little did it answer the purpose in view. Such passive form of action and the absence of contact with the enemy did not allow the turning movement of the enemy to be noticed in due time and permitted his infantry to come right close to the cavalry detachment. The cavalry gave information regarding the flanking movement on the 14th, whereas if it had carried out the reconnoitering and protection of the flank in any other way, it would have noticed the movement of Nogi's army when quite at the beginning, when only parts of that army were crossing the Hunkhe, that is, two or three days earlier, which would have made a great difference.

The discovery of the turning movement called forth the occupation of Syfontai by eight battalions of the infantry; eighteen squadrons of the Dragoon brigade were moved through Soohodiapu to Gavohooapu and Tuitavooan and a brigade of the 41st division under the command of Birger were sent on towards Sinmintin to Kaolitoon, as a screen, for the protection of the right flank of the army and for the purpose of reconnoitering the locality beyond the river Liaokhe.

On the 16th General Grekoff was ordered to find out what forces of the enemy were moving on both banks of the Liaokhe, and to determine the line of the enemy's movement. For this purpose he was advised to occupy the road to Sinmintin on both banks of the Liaokhe and to send out numerous scouting parties.

On the morning of the 16th the Japanese on the other hand, advanced on Syfontai with the forces which had been moving towards it from the south; part of them deployed opposite to Syfontai and the remaining columns, forming about a division continued to turn Syfontai from the west, drove back the 5th Ural regiment and passed to the rear of Syfontai. General Grekoff also retreated and reached Hoodiatai towards evening, without having accomplished the task which had been set him.

Meanwhile General Pavloff's detachment continued to keep its position between Syfontai and Pendiauopa, stopping the advance of the enemy, General Pavloff received the order to move on to Kalama for the purpose of reconnoitering the tail of the Japanese columns, which were moving to the north, and of harassing them from the rear. But it was already impossible to reach Kalama and General Pavloff moved on to the north with the purpose of coming into contact with the detachment of General Grekoff and of making an attempt to reach the Liaokhe, outflanking the Japanese columns from the north, at their heads, but at the request of General Eichholz, he halted at Tuerlto, for the purpose of protecting the Syfontai detachment from the north. Thus, the detachment of General Pavloff was detained near Syfontai without having reached Kalama and without having joined General Grekoff's detachment.

In the course of the day the Japanese thrice attacked the Syfontai positions, but without success. Towards evening General Eichholz ordered the Syfontai troops to retreat and himself moved on to Tuntaitsy to join the Rifle corps, under the protection of General Pavloff's cavalry, which was disposed at Sathaitsza.

While the battle was going on with the right column of Nogi's army, the other column of the same had already moved further on and began to pass on to the east towards Mukden. Thus again during the operations on the 16th of February the cavalry remained near the infantry, losing its freedom of action and all possibility of developing active operations. The cavalry detachment kept receiving contradictory orders all that day from the Commander of the IId Army, from General Grekoff, as Commander of the Cavalry, and from General Eichholz, Commander of the Syfontai detachment.

General Stepanoff's brigade of Dragoons was ordered to march to Tuitavooan and across the Liaokhe, for the purpose of reconnoitering the locality between the Liaokhe and the Sinmintin Railway, and arrived at Salimpu, where it halted for the night near the cavalry detachment of General Grekoff which was stationed for the night at Hoodiatai at a distance of several versts, and near the 5th Ural regiment at Tchizanpuza at a distance of seven versts. Thus, in such a small space, at about twenty versts to the north of Syfontai, on the night between the 16th and 17th of February, twenty-one squadrons and six guns were concentrated. The Japanese got before this

7th Transbaikal battery, in all 450 mounted men. Out of these parts had to be given away into the newly formed detachment of Major General Golembatoffsky and to form the flying post, after which under General Eichholz remained only 230 Cossacks, which were disposed in Sathaitsza; there they joined the Zamoscz regiment and did not undertake any active operations, General Eichholz was ordered to give up the command of the detachment to Major General Tolmatcheff.

General Tolmatcheff's detachment received the following order: "to reconnoitre the locality on the side where the turning movement of the enemy was being executed, keeping to the right bank of the Hunkhe, and directing the scouting operations towards the north," the execution of this order being laid on the cavalry of the detachment.

The information obtained by the cavalry on the 17th proved that considerable forces of the enemy, about two divisions, moving between the Hunkhe and the Liaokhe, successively turned to the east and advanced to the front line Salimpu—Madiapu, likewise the Sinmintin was occupied by Japanese cavalry. In fact, along the right bank of the Hunkhe the 9th Japanese division supported by the 8th division from Oku's army was advancing towards Shuango and Siaosinmentin.

The 7th Japanese division, which was being observed by General Pavloff's cavalry, was advancing on Gauhuapu and Tatchindooiza. To the left the reserve brigade, having come up to Salimpu, was moving on to Hudiatai. Further, the 8th division which had been moving on the exterior line of the bow formed by the general front in the movement of the turning columns of Nogi's army, was advancing to the north, in the direction of Tchinguntai; it was under the observation of the 5th Ural regiment. Lastly, on the extreme left flank, General Tomura's cavalry detachment with two battalions was moving towards Dafanshin.

In this way, General Grekoff's cavalry passed directly before the front of three Japanese columns without coming into collision with them anywhere.

Thus, during the preceding two days, the 16th and the 17th, the task set to the cavalry was to move up to Liaokhe and

develop scouting operations on the right bank of the river, and at the same time by surrounding the advancing columns from the flanks and in the rear to impede their movement. But the cavalry did not succeed in accomplishing this. General Pavloff's detachment failed to get before the enemy's column, by gaining its head, on the contrary the Japanese infantry got in advance of him, and having cut him off from General Grekoff, prevented his coming into contact with the latter, and obliged him to remain on the interior flank of the Japanese columns.

General Grekoff's detachment succeeded in reaching Liaobian and Kaulitoon, that is, to come out on the exterior flank of the enemy, but he did not profit by his advantageous position, and did not venture to attack with his twenty squadrons the rear of the Japanese troops, moving to the east in the direction of Mukden. He remained in inaction at Sandiapu the whole of the following day, only sending out four squadrons of the Tchernigoff regiment across the river, and trusting to the information obtained from local inhabitants that Sinmintin was occupied by a small force of 700 Japanese mounted men.

Thus, the night from the 17th to the 18th, the cavalry was disposed in the following order:

1. Major General Grekoff's detachment of twenty squadrons and sotnias with six guns:

(a) Four squadrons of the Tchernigoff regiment and two sotnias of the Chita Cossacks on the right bank of the Liaokhe between Matchan and Voitsiavopen, near Sinmintin.

(b) Four sotnias of the 5th Ural regiment near Tchinduista in contact with the scouting patrols of the enemy.

(c) A reserve force of ten squadrons and sotnias with six guns at Sadiapu.

2. General Tolmatcheff's detachment consisting of nineteen sotnias with twelve guns, partly near Aidiapu, partly on the left bank of the Hunkhe, near Saovantchinpu.

On the 18th the Ural regiment received an order to observe the enemy on the left bank of the Liaokhe, from the north, and to enter into contact on the right with the Tchernigoff regiment, which was observing the enemy on the right bank of the Liaokhe, that is to say, again only to observe the enemy without carrying out any active operations. The Ural regiment moved on towards Sishelikhe, that is, four versts in advance, disclosed the approach of two infantry regiments of the enemy with one battery towards Dafashan, informed General Grekoff thereof and retreated towards Liaobian, having received the order from General Grekoff to keep up the contact with the brigade of General Birger, which was moving on from Kaulintoon to Mukden and to cover the left flank of General Grekoff's reserve, remaining on the spot. At Liaobian the regiment halted for the night.

Towards nightfall General Grekoff's reserve moved to Siaotszylampao, that is, to the east. On that day, during the time. when the Japanese columns were continuing their movement to the east and their left flank detachment came into collision near Dafanshan with General Birger's detachment, General Grekoff's cavalry, after remaining inactive all day, towards evening, without having been molested by the enemy, moved away in the direction of the northeast, the consequence of which was that the detachment of Birger and Topornin were left unsupported. In his reports of that day General Grekoff gives very vague information, and only concerning operations in the rear of the Japanese columns moving to the east. This information was founded on the reports of the scouting parties, which had not been verified, as the main body of the detachment, ten squadrons and sotnias, was as a distance of twenty versts from scouting patrols on that day, and the right flank, six squadrons and sotnias, at a distance of ten verst.

General Tolmatcheff's cavalry detachment acted on that day in direct contact with the newly formed infantry detachment of General von der Launnitz, which was protecting Sukhudiapu by means of two rear guard parties placed on both banks of the Hunkhe. The task set to the cavalry consisted in carrying out near scouting, and the protection and keeping up of the contact between the parties on both banks of the river, also the protection of the right flank of the troops on the right bank of the river (General Golembatoffsky's detachment) during their retreat from Shuango towards Tunsonpu.

Thus on that day General Tolmatcheff's cavalry did not undertake any independent operations. During the day six sotnias were sent out to be placed at the disposal of General Baron Kaulbars, and only thirteen sotnias and twelve guns, remained in the detachment.

The nature of Major General Tolmatcheff's reports is note worthy. They contain such expressions as "one of my scouting parties observed that the Japanese were marching in three columns," and so on. This proves that the reports were founded on information obtained from casual scouting patrols, whereas such important information ought to have been verified by the operations of the entire detachment.

About 3 o'clock P. M., General Tolmatcheff reports that he, "in view thereof that the infantry was protecting his front, passed over to Sukhudiapu with the purpose of crossing the Hunkhe on that spot, and moving on to Tuntaitszy, to the right flank of the IId Army." The reason for this is quite incomprehensible. During the day no reports were received from General Tolmatcheff, which proves that no reconnoitering operations had been carried out on his part on the left bank. The occupation of Tsantaopu by the Japanese remained undiscovered. On the same day General Tolmatcheff's detachment, however, again crossed over to the right bank of the Hunkhe, then at 8 o'clock in the evening returned to the left bank and halted for the night near Sukhudiapu. From the above it may be assumed that General Tolmatcheff's cavalry hung about all day near the infantry without any defined object and confined itself to near scouting.

Towards nightfall Sukhudiapu was occupied by the Japanese in the rear of Lieutenant General Ivanoff's dtachment, disposed in the region of Inoerpu—Tuelpu—Totai.

The Japanese penetrated to that spot by crossing over to the left bank of the Hunkhe, near Tsantaopu, after the detachment of General Golembatoffsky had retreated along the right bank. This was overlooked by Tolmatcheff's cavalry, who gave no information concerning the occupation of Tsantaopu by the Japanese.

Towards the night of the 18th, the Commander-in-Chief gave orders to concentrate the main body of the IId Army on the right bank of the Hunkhe, on the lines Sathaitsza—Iansyntoon of the morning of the 19th. The division of Major General de Witt reached the northwestern front of Mukden and

took possession of the line Tabetoon—Sahedtsza—Tsechuantoon. Besides this, the 1st Siberian corps also arrived at Mukden, and was left in reserve for the time.

During that time General Topornin's detachment was engaged in a battle near, and in front of Salimpu, after which towards nightfall on the 18th it retreated to Niusentoon and Uhuantoon, that is, to the left flank of de Witt.

After the engagement near Defanshan the detachment of General Birger passed to Hushitaki, to the north of Mukden. Part of the troops of the IId Army remained on the left bank of the Hunkhe between Tuntaitszy—Madiapu—Elthaitsza—Vasuchuanzy—Lashanpu in the region of the IId Army under the command of General Baron Bilderling.

On the 19th the Commander-in-Chief intended to assume the offensive with the troops which were concentrated on the right bank of the Hunkhe. However, General Baron Kaulbars deemed it inexpedient, by reason of the utter exhaustion of the troops and the incomplete concentration of his army. The attack did not take place.

The cavalry of the IId Army occupied the following positions on the day of the 19th: The main body of General Grekoff's cavalry detachment was placed on the left bank of the Liaokhe near Siaoutszylampu; four squadrons of the Tchernigoff regiment and two sotnias of the Chita Cossacks continued the reconnoitering operation on the right bank of the Liaokhe; the 5th Ural regiment occupied Kaimapu.

On the 19th General Grekoff decided to take advantage of his favorable position at the back of the left flank of Nogi's army moving on to Mukden, and to attack the same from the rear. For this purpose he ordered the Ural regiment to pass to Liaobian, only one and one-half versts from the halting place, and, "to observe the columns of the enemy from the north, distribute sentry posts at Binlopu through Shelikhe along five versts in that direction, to keep up a contact with General Birger or any other right flank force of the disposition at Pinlopu, and to be in touch on the right with three sotnias of the 1st Chita regiment, which were to move on to the line Ivathai—Shelikhe."

The Ural regiment was thus ordered to deploy itself along a distance of fifteen versts on the front and the line Ivathai—Shelikhe, along which the regiment was to keep up the contact with three sotnias of Chita Cossacks had a length of twenty-five versts. Hence, the part assigned to the Ural regiment was exclusively for guard protection, that is, a passive one.

General Grekoff himself decided to move on with his detachment to the rear of the enemy, that is, in the space between the troops of the latter and the river Liaokhe, which necessitated a movement to the southwest, but he moved on to Kaulitoon, to the west and to the north of the road Mukden—Sinmintin, which did not bring him nearer to the enemy, but on the contrary, farther away.

The Ural regiment moved on to Shelikhe in the morning, but on finding that General Birger's detachment had retreated during the night towards Kutchenzy, leaving seventy of its men wounded there, the regiment dismounted and proceeded to transport the same to the detachment under cover of the sotnias. At 10:30 the remaining three sotnias returned to Kaimapu, one of them occupying Laobian, and disposed themselves for the night at Syzangai. Consequently, the regiment did not accomplish the task set to it, which was to observe the front Shelikhe—Pinlopu and to enter into contact with the right flank of the army. On that day one Cossack was wounded.

The main body of General Grekoff's forces reached Lidigantzy at 11 a.m., from where he sent reports concerning the movements of small parties of the enemy and of the Hunhuze, on the right bank of the Liaokhe. Seeing that the Ural regiment had not accomplished the task set to it, General Grekoff decided to execute the same by means of the reserve force and for that purpose returned to Laobian from where he ordered the Ural regiment to seek to enter into contact with the main forces.

Towards night on the 19th, the Tchernigoff regiment with two sotnias on the right bank of the Liaokhe, to the south of Sinmintin; three sotnias of the Ural regiment halted for the night at Syzantai; the reserve disposing itself at Sindiafan—Latore, with outposts picquets along the line Shelikhe—Pinlopu. The

detachment had experienced no losses except the above mentioned wounded Cossacks.

Thus on that day, General Grekoff, without any reasons, desisted from his originally good idea of attacking the rear of the Japanese army. Instead, his detachment advanced towards Mukden for the purpose of acting in concert with the other troops and took its place on the flank of the disposition of the Japanese armies.

The cavalry detachment of General Tolmatcheff, on the 19th, crossed to the right bank of the Hunkhe and remained near the detachment of Lieutenant General Herschelman at Madiapu carrying out scouting operations during the battle in immediate contact with the infantry and towards night crossed the Hunkhe again.

During the 19th the Japanese remained passive facing the western front of Mukden; they proceeded to draw up their columns and only sent out advanced posts. The flanking movement was executed by three divisions, which were joined on the 19th by four reserve brigades. Along the valley of the Hunkhe the 8th division was moving, and to the south of the latter parts on the 4th and 5th divisions. On the left flank of the Japanese disposition, in the direction of northeast moved four cavalry regiments and two battalions with fourteen guns and twenty-four machine guns under the command of Tomura, and a cavalry brigade under Akiyama.

Notwithstanding the presence of forty squadrons and somias on our left flank and their carrrying out exclusively reconnoitering operations, we were in utter ignorance of the forces of the enemy outflanking our right flank, likewise we knew nothing of the sphere of action of Nogi's army and the position of its left flank; we did not know precisely where the sphere of action of the armies of Oku and Nogi ended.

Towards night on the 19th the disposition of the Russian troops on the eastern front was as follows:

On the right flank, a composite division under Major General de Witt, occupied the line Takhentoon—Matuensa; on the extreme right flank near Saitazsa were located the forces of Colonel Zapolsky, six battalions.

In the center, thirty-two battalions of the 25th division and a composite division of the Xth Corps under the command of General Topornin, from Niusentoon to Yukhuantoon. On the left flank, General Zerpitsky with the forces of General Tchurin, nine battalions of Rousanoff, eleven battalions of Hershelman, twenty-five battalions and the 15th division—thirteen battalions. From the left flank the troops of General Topornin through Madiapu and up to Vasuguanzsy.

The reserve of the army, for the right flank in the region of Takhetoon, eighteen battalions and six squadrons of the 1st Siberian Corps; beyond the left flank near Sotkhosa, thirteen battalions of the 8th rifle regiment and the Vth Siberian Corps. Total on the eastern front: 130 battalions, over an area of thirty versts.

For the 20th Baron Kaulbars had an order to take the offensive and to repulse the enemy's forces which were outflanked by attacking the enemy's left flank, namely, to advance with the right flank.

Baron Kaulbars, having given the requisite instructions ordered his cavalry "to continue carrying out the task given it in the rear and on the enemy's flanks."

General Grekoff reported in the morning to the Commander of the army that there was no fresh news of movement by the Japanese troops from Liaoyan, where their extreme flank was located. On the eve, however, he had reported that one battalion and three squadrons of the Japanese passed from Liaoyan to the northeast. This shows that by morning of the 20th the extremest point of the left Japanese flank had not been exactly defined. General Grekoff ordered in the morning the Ural regiment to occupy Pinlopu and to deploy sotnias on the front so as to link on the right with the Tchitinsky sotnia and on the left with the right flank of our troops defending Mukden, and to establish the whereabouts of the left Japanese flank coming from the west. On establishing the above to watch the flanking movement, and also to cover the routes on the north in the rear of the Russian troops and on the railway Mukden-Tielin.

As the Ural regiment started its advance its Commander was informed that all the nearest villages were occupied by

Japanese. This shows that on the night of the 19th and 20th, as the cavalry left flank was at Pinlopu, ten versts from the right flank of the army near Saitazsy, they were not linked together, and the enemy had slipped through this space unperceived.

On this being reported to him General Grekoff sent four squadrons of dragoons to Kuzsyan to dislodge the enemy and

occupy the line of protection.

The dragoons after an insignificant skirmish occupied the adjoining villages left by the Japanese and during the night linked themselves with the right flank of the army. The Russians lost only one dragoon that day. Eventually Grekoff's main force reached Lidiapudsy where they were joined by the Ural regiment. The forces of General Tolmatcheff remained throughout the 20th in Lanua without taking part in that day's fighting on the western front.

Hence, the entire activity of the twenty squadrons and sotnias with six guns concentrated in the region of Lidiapudsy restricted itself on the 20th to an insignificant skirmish of four squadrons of dragoons near Kutsyan, to the establishment of a link with the army and was brought down to a passive protection of the flank of the army and to covering of the routes to the north which were not threatened at all. In other words, in spite of the order received for that day "to continue carrying out the task regarding the rear and the enemy's flanks," it was brought down to the nearest protection of the flank which according to the disposition was charged to the Primorsky Dragoon regiment. The eleven sotnias of General Tolmatcheff remained quite inactive five versts from the battlefield.

On the morning of the 21st the mounted troops were located thus: five sotnias of the Tchitinsky regiment on the line Bugensivo—Sindiafan extending over nineteen versts, fronting west, towards Liaokhe, whence according to latest reports nothing could be expected. Four squadrons of the Tchernigoff regiment on the route from the right bank of Liaokhe to join the main forces. Two squadrons of the Niejin regiment guarding the line Sinthoiza—Taudiapoon with the front to the enemy's flank. The main forces ten squadrons and sotnias with six

guns were near Lidiapudsa beyond the left flank of the entire posts.

From General Grekoff's report to the Commander-in-Chief on the morning of the 21st it is seen that he recognized his task to be the covering of the route to Tielin. Hence, the cavalry played this purely passive part of protecting the routes to the north without there having been the least attempted movement by the enemy in that direction. Some trifling shirmishes took place that day in front of the outposts. The Ural regiment took up advanced positions at first but withdrew immediately fire was opened against it. On the left flank the Japanese seized Kunuvatoon, forcing the Niejin squadron to retire. This compelled General Grekoff, lest the Japanese might break through, to remove the reserve to Khaituon, although he might have prevented this by remaining at Liduapudsa. Thus for two days the cavalry of General Grekoff remained inactive, offering no assistance to the army in its efforts to take the offensive.

Late at night the cavalry took up the following positions: The Niejin regiment, two squadrons, occupied the sentry posts from Taudiatoon to Lidiofan, ten versts. Five sotnias of the Tchitin regiment occupied the sentry posts from Lidiofan to Bugetsivo, eighteen versts. Five sotnias of the Ussuri regiment drew their posts along the right bank of the Liaokhe from Bugetsivo to Ulachaopudsa covering a distance of four versts. The main forces, thirteen squadrons and six guns were near Lidiapudsa. Thus, towards night the troops occupied almost the same positions, having only lengthened the line of protection beyond Liaokhe. Facing them the enemy had occupied the villages Pinlopu and Eltkhaiza; in the latter with two battalions and four squadrons. The cavalry lost two dragoons that day.

Meanwhile a combat was taking place over the entire west front, and the flanking movement of Nogi's army was going deeper and deeper, and threatened the railway, which was Russia's line of communication.

On the morning of the 21st Major General Orbeliani took over the command of Major General Tolmatcheff's cavalry. After some modifications had been made in the orders Major General Payloff was sent with two sotnias to reconnoiter ahead of General Zerpitzky's advance guard. As a combat was proceeding along the entire front this reconnaissance was to be carried out between the two fighting lines. It could clearly give no results and was quite useless. On this occasion the cavalry was given a task which should have been left to the infantry forces leading the combat; for it was from the combat itself that the answers to the questions could alone be learned. The Caucasian mounted brigade remained inactive throughout the day and far from the battlefield.

The attempts of the IId Army to take the offensive on its right advanced flank on the 20th and 21st were unsuccessful.

On the following two days, the 22d and 23d, the positions of General Grekoff's cavalry changed but little. It remained inactive and did not furnish even passive protection to the routes to the north, seeing that small groups of the enemy broke through in that direction. From General Grekoff's reports it was seen that the Japanese infantry had occupied the villages in his vicinity. On the morning of the 22d the Japanese, whose forces General Grekoff estimated at two regiments of infantry and eight squadrons with two mounted guns, took the offensive against the advanced forces on Madiaten—Kautsyen, gradually spreading northwards by an outflanking movement on the right of the cavalry. In view of this General Grekoff's forces retrired through Tasitoon to Zkhailuopu and further to Taushu for the night, having left the Ussuri, Tchita and Ural regiments to protect the line Makudsa—Bugetsivo—Ulagaoputsi.

The forces that took part in skirmished sustained no losses on these days.

Hence, on this day the Japanese forces advanced on the cavalry, outflanked it, compelled it to retire, and, disregarding the presence of the twenty-five Russian squadrons and sotnias, having placed a protection against them, openly continued the flanking movement on the right of the army and embraced it.

General Grekoff's cavalry passively yielded to the enemy, and retired without any losses that day. For the last two days the Japanese forced General Gerngross and the northern forces to occupy the line Fansitoon—Ungentoon with their front facing northwest and north, eight versts from Mukden with their right flank resting on the railway. With the advance and

the outflanking of the Russians on the right from the north, the Japanese exposed their flank and rear to General Grekoff's forces and in order to cover them advanced cavalry and infantry slowly northwards, threatening the railway and the Russian communications. All General Nogi's forces were meanwhile attacking the entire western front of the Russian army.

General Pavloff, on the 22d, having joined his two sotnias with four sotnias of the IVth Ural regiment received orders to cover the nearest stages towards Mukden from the north. The Caucasian brigades of Prince Orbeliani remained inactive on the 22d. On that day the Japanese took energetically the offensive and made a series of attacks on our entire western front. This resulted in the right flank being repulsed to Tansintoon—Podisa and the Japanese began to threaten Mukden from the north by cutting off the line of retreat to the Russian army.

The Commander-in-Chief, having ordered the Ist and IIId Army to retire to the line of the river Hunkhe, organized the defense of Mukden from the north by special forces under General von der Launitz whom he charged to cover entirely the approaches to Mukden and to prevent the destruction of the railway. The northern forces consisted of twenty-six battalions, fifty-two guns and the mounted forces of Prince Orbeliani, seventeen squadrons and sotnias and twelve horse guns. Now the mounted forces of General Grekoff remained also on the north of Mukden and were not united under the northern command, although the radius of action of Grekoff's and Orbeliani's forces adjoining each other. The total number of mounted forces north of Mukden were forty-two squadrons and sotnias with eighteen guns.

Beginning from the morning of the 23d the Japanese continued to advance against Grekoff's forces. The Ural regiment was ordered to move on Zkhailuopu and to occupy it. The Japanese openly under the eyes of the Cossacks began strengthening themselves in Tasitoon. The mounted forces did not prevent this and when one battalion and two squadrons were collected there and moved ahead the Ural regiment retired to Tchidiasa, where they rested for the night. The regiment sustained no losses. On the right flank two squadrons of the

Niejinsky regiment were sent in the morning to Sifasi to support the Tchitinsky regiment, but as they did not encounter the enemy the squadrons turned back. No other action was taken

by the troops.

Prince Orbeliani's cavalry was given the task of scouting the enemy north of Mukden, namely, in the region where Grekoff's cavalry was assisting the infantry in the defence. The combined regiment of General Pavloff passed the night at Santiasa in touch with the enemy. During the attack of the Japanese it remained on the spot protecting the right flank of the infantry. Meanwhile the IVth Ural regiment commenced an attack on the enemy's battery left behind, but encountering infantry fire, it retired about 400 paces, having lost only five horses. That was all the regiment cid.

Thus, General Grekoff's forces were again given an opportunity of attacking the enemy's rear. Action on the part of cavalry in this direction would have been most valuable if only to stop the enemy and gain time. But the cavalry concentrated north of Mukden in two bodies, one of twenty squadrons and sotnias under General Grekoff near Taushu and the other consisting of ten sotnias at Tsuertoon only kept the defensive on the 23d.

On the 24th Grekoff received instructions from the Commander-in-Chief to break through the line of the enemy's protection and after outflanking it, to penetrate into the rear of the left flank and ascertain the force and disposition of the reserve beyond this flank. The staff of the IId Army gave him the task of performing: "aprecise and decisive reconnaissance west of the railway between the stations Houshitai and Tielin, in order to establish the forces and grouping of the Japanese in this region." These were again quite conflicting instructions. The cavalry remained at Taushu, having sent out only scouting parties to get in touch with the enemy. After this it remained on the same place, and the advanced forces were sent ahead from two to ten versts and established the weakening of the former protection. Even this, however, did not induce General Grekoff to advance against the rear of the left flank of the Japanese. He remained for the night at Taushu, having his advanced lines at Bugetsivo—Yadashan and the Ussuri regiment on the right bank of the Liaokhe. On the night of the 25th a general retreat of the army to Tielin was decided upon.

In the last five days the general situation had changed in favor of the Russian cavalry. The Japanese columns who were marching northwards all turned to the east and continued their advance on Mukden. Having begun the combat with the west front of the Russians, they started a series of attacks which lasted several days. When the Japanese turned eastwards on the 18th, Grekoff's cavalry had the rear of their flank facing him and hence was able to strike freely into their rear. This was quite evident at the time. When the Japanese were attacking fiercely the stubbornly resisting front of the Russian troops, action by Grekoff could have had a sweeping effect. Selfsacrificing and energetic action by the cavalry in the rear would have had effective results, particularly on the 20th and 21st., when it was proposed that the Russian front troops should take the offensive. At the very least the moral effect would have served to check the Japanese advance and we could have gained time to collect our forces and concentrate for some chosen purpose. General Grekoff saw well the importance of such an attack and was about to make one on the 19th, but he lacked courage and remained entirely passive. He created quite unnecessary task for himself of covering the routes to the north which were not threatened at all.

However, Grekoff was not the only one to blame, as he acted in accordance with instructions given him by the staff of the IId Army, which ran as follows: "It is at present necessary to maintain a close communication with the infantry located in front at the station Hushitai and prevent the spreading out of small bodies of the enemy northward. In the event of success on our part the cavalry should strike at the enemy's flank and nearest rear." Thus he was ordered to strike against the rear only in event of general success, wheras it was just this activity that would have assisted success.

The cavalry of General Tolmatcheff, subsequently of Prince Orbeliani, also refrained from effective action, and only kept direct touch with the infantry by short range scouting, which is not the cavalry's first duty. In fact it kept hiding behind the infantry.

Thus from the moment that the enemy's flanking movement on the right of the Russian army was established the operations of the cavalry divide themselves into two periods. During the first days, from the 14th to the 17th, when the length and direction of the movement was not yet known; and from the 18th, when the line became generally known. In the first period it was important to learn whether the columns already disclosed facing our right flank were the chief forces of the engaged troops or only a screen, the side vanguard, in whose rear the movement of the other troops could be expected.

Naturally, at that time the Commander-in-Chief insisted that the cavalry should develop scouting on the right bank of the Liaokhe, but later on it became known that the Japanese forces advancing between Hunkhe and Liaokhe had turned eastward in the direction of Mukden and only small patrols and groups of Hunhuzes remained behind. In view of this the scouting became useless. Yet, it was continued in the expectation of some deep thought out flanking movement, and thus the opportunity was missed of the cavalry attacking the Japanese in their rear while they were in the act of flanking.

Summarising all that had been stated of the work of the cavalry on our right during the period of the Mukden battles one must admit the following:

Before the beginning of the battle the cavalry detachment ordered to protect the right flank of the army was not able to reconnoiter sufficiently, owing to its unfavorable disposition on the flank and also its passive action; and although it discovered the outflanking movement of the enemy only two or three days later than it should have done and consequently did not warn the army in due time.

Further, all the cavalry's efforts were directed to discovering the enemy's outflanking force and the direction of its movements. Scouting patrols were sent out and brought in information; and the cavalry commanders contented themselves with this information without verifying it by reinforced reconnoitering, by sending out larger parties.

The commanders frequently even were content with information obtained from local inhabitants, of Chinese travellers, and without further verification reported it to the Commander-in-Chief. In a word, the reconnoitering was carried out with insufficient force, not energetically, not actively, and thus it elucidated the position only slowly and wasted much time.

On the 17th and 18th, when conditions were sufficiently defined, all the cavalry work was directed to the carrying out of distant reconnoitering, to the prejudice of rear reconnoitering and other services. The cavalry was content to play only a passive part, and all its work during this period was marked by slowness and dilatoriness. Instead of surrounding the advancing columns of the enemy from the flanks and the rear and taking advantage of favorable occasions for sudden attack on the rear of the enemy in large masses, in mounted or dismounted formation, the cavalry was so slow that it could not overtake the enemy's infantry. On the contrary, the infantry each time, got before the Russian cavalry stopped its way, and cut off separate parties; and, finally the Japanese infantry took the offensive and obliged our cavalry to give up its object and retreat.

As to developing independent action in the rear of the enemy to strike the rear, our cavalry not only did not venture to do so when ordered.

The passivity and absence of desire to take independent action passes all limit and amounts to this that the cavalry actually endeavored to avoid fighting under various pretext, yielding to the enemy in everything. With even small forces against it our cavalry retreats hurriedly, takes cover behind the infantry and remains passive witness of battles in which the infantry troops heroically lay down their lives.

All this is eloquently confirmed by the cavalry losses during the terrible days of the Mukden battles. From the 14th to the 25th of February the eight regiments and three batteries lost only five officers and seventy-three men; Grekoff's detachment only two officers and twenty-seven men. Of all the losses of the Russians during the period of the Mukden battles 97 per cent. were borne by the infantry, and only 0.1 per cent. by the cavalry

It is noteworthy that the cavalry of the right flank, that is

of the IId Army, was not joined under the command of one chief. In one region four cavalry detachments worked in complete independence of one another. Parts of the cavalry frequently received different orders from different persons, and orders direct from the chiefs, not through their immediate commanders. All this led inevitably to confusion and disorder.

The cavalry showed a decided disinclination to mounted fighting; and on meeting the enemy it generally dismounted, that is to say, it gave up on its own accord its strong side and adopted a course of action which answers only in exceptional cases. It is characteristic also that the cavalry, while acting in close touch with the infantry, adopted the unnatural role of scouting within the zone of the battle order of the infantry which should not concern the cavalry at all.

With the retreat of the army towards Tielin and farther north towards the Sypinkhai positions the cavalry under General Mistchenko, the Caucasus, Ural and Transbaikal brigades, supported by General Morosoff's detachment, covered the right flank of the strategic front to prevent it being turned from the side of Mongolia. The exhaustion of both armies after the Mukden battles caused them to cease further hostilities, and, therefore, a long pause ensued until the losses would be replaced. We were waiting the arrival of three new mobilized corps, after which two more were to be mobilized. The Japanese, on their part, did not venture to take the offensive. At the same time the arrival of our Baltic Fleet in the Japan Sea was expected, and the encounter with the Japanese Fleet might create a new state of affairs.

It was during this period that General Mistchenko's cavalry forces of forty-five sotnias carried out its raid on the rear of the enemy, at Fakumin, from the left flank, as mentioned above.

This raid, which was without practical results but had rather a moral importance after the Mukden defeats, was the only important operation of our cavalry, whose activity up to the conclusion of peace was limited to scouting operations and only small skirmishes.

THE NEW RUSSIAN CAVALRY DRILL REGULATIONS.*

(Regulations for the Instruction of Cavalry Troops—Edition of 1912.)

THE important modifications affecting Cavalry Drill Regulations have rendered necessary the recasting of the regulations governing the instruction of troops, which, dating from 1896 (general scheme of instruction), and from 1901 (instruction of recruits, recruit companies and depots) presented some gaps to be filled.

As the men serve four years in the Russian cavalry, we should not expect to find the exercise and distinctions that are found in Section I of our Drill Regulations. On the other hand, we must note the extreme differences of season and climate in Russia, the distinction between the winter and summer periods.

GENERAL PRINCIPLES.

Instruction should always be directed toward practical ends, with the exclusive purpose of preparation for war; it should develop in all a desire for the offensive and the exercise of the initiative. In all degrees of rank, superiors should not interfere with their subordinates in the choice of means and manner of instruction, provided these latter are not contrary to the spirit of orders and regulations. They should assure themselves that all their subordinates are instructed in all matters within the scope of their military obligations.

The winter period extends, for example, from October 1st to April 15th; the summer period, from April 15th to October 1st; but this division of time is fixed by division commanders, conformably with general instructions of territorial department commanders. Moreover, regardless of this division of time of instruction, every cavalry unit should be ready for campaign

^{*}Translated from the Revue Militaire des Armees Etrangeres, February, 1913, for the War College Division, General Staff, by Captain Edward Calvert, Ninth Cavalry.

throughout the year, in other words, the individual instruction of the troops ought not to hinder during the winter the execution of field exercises by the constituted tactical units.

WINTER PERIOD.

The exercises of this period are intended, first of all, to render the trooper capable of marching individually in campaign and to give a progressive training to the horse. In mounted instruction, principal importance is given to cross-country riding. The exercises of this period comprise: For officers—riding hall training, mounted gymnastics, cross-country riding, use of the saber, revolver and carbine firing practice, instruction in Drill Regulations, tactical exercises, map and field exercises. For troops—riding hall exercises, cross-country riding, mounted and dismounted* preliminary exercises for firing, instruction in care and adjustment of equipment, interior economy and barrack discipline, field service, hasty entrenchment, and the training of young horses in each squadron.

SUMMER PERIOD.

This instruction emphasizes the necessity of making understood the use of each movement or formation, of instructing the units in the direction of the offensive, of cultivating the spirit of activity and audacity. As regards, the horses, it indicates the importance of confirming them in regular gaits, and of so training them, that at the end of the maneuvers of the regiment, the squadrons can sustain the extended gallop† for four kilometers.

It is well known that in Russia, instruction is followed in a very methodical fashion, from one year's end to the other; so we should not be surprised to find in these drill regulations a very comprehensive schedule of instruction.

The following allotment of time is prescribed: Four to six weeks, school of the squadron (troop); four weeks, school of the regiment; three weeks and a half to four weeks and a half, brigade and division maneuvers with horse artillery, followed by

^{*}The entire effective strength should be skilled in handling the saber and lance mounted and dismounted and the bayonet.

^{†420} meters per minute.

grand maneuvers. The regulations indicate the minimum number of exercises that will be had in each class of instruction.

SCHOOL OF THE TROOP.

Platoon instruction:

Dismounted 1	or	2	periods
Mounted 3	or	4	periods
Fighting on Foot	or	6	periods

Troop instruction:

Dismounted	1	or	2	periods
Mounted	12	or	16	periods
Fighting on Foot	5	or	7	periods*

Field exercises:

Platoon		3	or	4 periods
Troop		6	or	10 periods*

SCHOOL OF THE REGIMENT.

Instruction by regiment:

Mounted	14	periods
Dismounted	6	periods*
Field exercises		periods
Maneuvers	5	periods*

MANEUVERS OF SEVERAL REGIMENTS.

Tactical exercises of regiments	2 periods
Brigade exercises	periods
	or 3 periods
Division maneuvers	or 8 periods

Some exercises are had with the enemy outlined by flags, but the regulations look less with favor on this method, as being open to the objection of being too conventional and conductive to unreal situations. On the contrary, they emphasize the importance of maneuvers and prescribe the means for developing them.

^{*}One to be a night operation.

The field exercises comprise exclusively practical instruction in the service of security, communication and reconnaissance.

The regulations indicate the great importance of night operations and consequently prescribe not only exercises in security and reconnaissance, but also in marching and combat.

INSPECTIONS.

The regulations lay down the principle that inspections should not hinder the normal course of progressive instruction. The best method by which regimental and brigade commanders may assure results is to direct and constantly follow the progress of instruction.

"While making inspections, commanders should not limit themselves to compiling criticisms, but should give clear and precise directions as to the means and methods to be employed to correct the deficiencies noted, and should give troops the benefit of their own experience and personal example."

THE HORSE SHOW FOR SERVICE HORSES, 1913.*

In our issue for April, being hampered by the necessities of choice, we were obliged to limit ourselves to a very condensed account of this important test. But it seems worth while to return to the subject, as a study of the showing of the entries for this year may easily lead to erroneous deductions. Among the eight horses taking first rank, may be counted five half-blood and three full-blood horses, the latter gaining only fourth, fifth and eighth place. The half-blood had a still more notable victory over the full-blood, as the entries in the latter class were in the majority; since, taking into account the defections at the start, as well as the eliminations resulting from the different tests, of the thirty-six horses remaining in line last day, twenty-one were full-blood and only fifteen half-blood.

^{*}Translated from *The Revue de Cavalerie* for May, 1913, for the War College Division, General Staff, by C. F. Herring.

In the face of such a result, it might with reason be assumed that the full-blood is the less suitable for the requirements of a service horse. * * * But this would mean that all the sacrifices, especially those of the "Society for the Encouragement of Horse-Breeding," for the purpose of procuring for the army full-blood horses of quality, will go for nothing. It is well, however, not to accept the results of the contest of 1913 as by any means conclusive. They are far from being definite and seem rather the result of the special conditions of the trial, demonstrating that these conditions answer but imperfectly to the end contemplated by the institution of the "Service Horse Championship." This meeting, in reality, has for its object the improvement of officers' chargers most suitable to the different functions demanded in time of war. For instance, the mount of a cavalry officer must be swift, full of endurance, dexterous and supple; the winner of the contest should be one showing superiority from these different points of view.

It is impossible to deny, that, under the present conditions of competition, except perhaps in the training test, the horses are not put to it to give proof of their superiority. From the point of view of endurance, dexterity and speed, only a mediocre effort is required of them,—they are never given opportunity to demonstrate their highest capabilities. But that is the very end to be aimed at in establishing the system of trials, and it should not be an insolvable problem. While not in the least belittling the importance of training, would it not be possible, for example, to institute a service test consisting of a long run over a varied terrain broken by genuine obstacles well distributed? The country around Paris is marveloulsy adapted to such an experimental course. The horses competing would be divided into small groups, their performances compared very rigidly, and their relative standing would be determined by the time consumed in making the trip. With some such system as this, it would be possible to estimate the endurance skill and speed of the horses, as well as their agility.

This solution of the problem is not the only one; there are others conceivable and perhaps more satisfactory. In any event, the lesson to be deduced from the horse show of 1913, judging by all the correspondence we have received on the sub-

ject, is that the present conditions seem to be perfectible and that they are not giving entire satisfaction. We intend shortly, in another article, to make known the wishes of officers on this subject.

THE HORSEMANSHIP TEST-BIARRITZ, PARIS.*

THE test, as before published, consisted of covering a distance of 750 kilometers divided into three parts: First, from Biarritz to Bordeaux, 185 km., at forced pace, in three stages; second, from Bordeaux to Versailles, 550 km., at free gait, following fixed itinerary; third, from Versailles to Paris, 15 km., at forced gait. One hundred and twenty-two reserve officers were invited, and eighty-four set out on April 18th. Seventy-seven contestants remained in line at Bordeaux on April 21st, and applied themselves to the formidable task of making 550 km. at free gait. They had until Monday, April 28th, to reach Versailles, and eight of them registered there on the 24th, having completed this course of 550 km. in less than four days.

On April 25th, twenty-one participants arrived at Versailles, and there were thirty-three arrivals April 26th–27th. A total of sixty-two officers completed the trip, and the showing of some of them was more the remarkable as, owing to delay in organizing the ride, they had so little time for preparation. It should also be added that the weather conditions were rather unfavorable.

The following are the hours of arival at Versailles and the time made by the eight principal contestants.

- 1. Lieutenant Crespiat, of the First Chasseurs, Thursday, at 3:25 p. m., 160 km. per day.
 - 2. Captain Lebrun, 20th Artillery, at 6:50 p. m., 153 km.
- 3. Captain Nathan, 14th Train Squadron, at 7:00 P. M., 153 km.

^{*}Translated from *The Revue de Cavalerie* of May 13, 1913, for the War College Division, General Staff, by C. F. Herring.

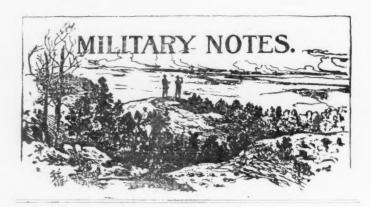
4. Lieutenant d'Amboix de Larbont, 6th Dragoons, at 7 p. m., 153 km.

Lieutenant Pichon, '10th Chasseurs, at 8:35 p. m.,
 150 km.

6. Lieutenant Jabet, 20th Dragoons, 10:50 p. m., 147 km. 7-8. Captain Dossaud, 95th Territorial, and Lieutenant Marcel Guyot, 6th Chasseurs, at 11:25 p. m., 146 km.

On Wednesday, March 30th, the distribution of awards took place at the Military Club, the Minister of War, presiding. M. Etienne congratulated, in most felicitous terms, the officers of the completement upon the energy they displayed and the magnificent results attained. "I am sure," he said, in closing his remarks, "that this great lesson of endurance and of moral and physical strength will bear fruit in the future. I offer to all officers who participated in this test my admiration and my gratitude."





PROFESSIONAL NOTES.

(Amplifying Paragraph 856 of the Cavalry Drill Regulations.)

THE RAID.

"Raids are isolated, independent cavalry operations, conducted with secrecy, by rapid marches, usually avoiding general engagements.

"The raiding force should be composed of the best mounted and most self-reliant troops, and should consist of complete organizations; as, regiments, squadrons, etc.

"The objects of raids are:

"To harass and weaken the enemy by drawing off in pursuit his cavalry or other troops, or by causing him to guard a great number of points; to threaten, interrupt, and destroy his communications; to destroy his depots and source of supplies; to gain information; to cause alarm in the enemy's country, or create a sentiment unfavorable to the prosecution of the war; to interfere with the mobilization of the enemy's forces at the beginning of a campaign; to affect the release of prisoners." (Par. 856, C. D. R.)

In order to accomplish such results the command should consist of one or more regiments of cavalry; a detachment of field artillery; a wireless telegraph detachment; a motorcycle detachment; a detachment of pioneers having a demolition outfit and canvas pontoons; numerous scouts; guides, spies, and interpreters; and a sufficient pack train.

Wagon trains cannot be used, since in wet weather or mountainous country they impede quick movement.

A sufficient sum of money should be carried for purchase of services, supplies, and animals.

In order to preserve the necessary mobility for such command, the loads on horses should be cut down to the minimum; at the same time there should always be carried a reserve supply of grain for the horses, of rations, and of ammunition.

Such a command in many cases will have to live off the country. When cattle are to be found the meat component need not be carried in full, and the remainder of the ration may be reduced, replacing it in weight with beef. In dry countries canvas bags for carrying water on pack mules are desirable.

As a rule the pack train will not be able to carry all the supplies needed, and part of the ammunition, rations and grain must be carried on the horse.

The greatest attention should be paid to the conserving of the strength of the horses. Marches of extreme length should be made only when necessary. Saddles should always be taken off when in camp at night, even when in the presence of the enemy. To leave the saddles on for a great number of hours, as was done frequently during the Civil War, ruins the horse. With good troops, with a sufficient strong and active outpost line, it should always be possible to unsaddle even in the presence of the enemy.

Every effort should be made to keep the horses fit for the supreme effort of the raid. After long marches extra grooming and hand rubbing should be practiced. When at a walk troops should frequently dismount and lead. Men with sorebacked horses should always dismount when at a walk. Grain should be fed at every meal. It is as necessary to the horse as meat is to the man. It can always be found in a populated country. To obtain hay or grass usually requires extra labor of the trooper,

but nevertheless a full supply should be fed daily. Only by feeding the horses well can a long raid be made successful. In cold or rainy weather the horse should be covered at night. In warm climates, to reduce the weight of the horse, the following articles will be left behind:—overcoat, bed blanket, extra clothing.

Two emergency rations will always be carried. On occasions when there is no train or when the pack train can not carry sufficient rations, four days' rations additional may be carried in the saddle bags, reducing the haversack ration by deducting half the bread and half the bacon, each half-ration to be supplemented each day by two pounds of beef and such vegetables as may be obtained by foraging parties.

In view of the fact that the regulation mule train can carry only one day's grain for a regiment, it will ordinarily be necessary to carry grain on each troop horse. This extra grain may be carried in canvas tubes five feet long and three inches in diameter, strapped on the saddle, or it may be carried in the feed bags, so arranged as to lace up at the top and strapped to the saddle. Ten pounds may be carried in this manner.

It is recommended to officers and officers' messes that they employ their own animals to carry extra baggage and luxuries.

> James Parker, Brigadier General U.S. Army.

CONDEMNATION OF PUBLIC ANIMALS.

The Editor:

WAS very much interested in an article by Veterinarian Griffin on how to assist an inspector when acting on unserviceable horses.

The article was good and timely, but there is more to be said. General Orders No. 252, War Department, 1909, requires that:

"A memorandum of the dates on which each public animal is unfit for duty and of the disease or injury causing the unfit-

ness will be kept by the officer who is responsible for the animal. When a public animal is transferred from one responsible officer to another, any important ailment the animal has had since his preceding transfer will be noted on its descriptive card. No blank form will be funrished by the War Department for the purpose of keeping the memorandum referred to in this this order".

In my inspection of eight cavalry regiments, I find that there was about one troop commander in twenty that knew of the existence of this order or if he knew of it he did not obey it.

The requirement that the record will be kept for each animal would seem to exclude a running sick report such as is used for enlisted men.

In no case did I find that when regiments transferred horses that the sick record of the horse was on the discrpitive card as required.

Suppose this order were literally obeyed instead of being systematically disobeyed, how would it assist the inspector? When a horse is presented the sick record is also presented. That is, presented as it was originally made and not made at time and for the occasion of the inspection.

In this case, the inspector can see at a glance what duty the horse has done and what he has failed to do; and with little difficulty decide whether it is profitable for the government to keep or to get rid of him.

Further, the inspector will not have to listen to the tiresome "spiel" of the quartermaster sergeant or other interested person about what duty the horse has done or has not done.

How many troop commanders and commanding officers are acquainted with the requirements of Par. II, Bulletin 19, W. D., June 9, 1913, which requires that "Form 277 Adjutant's General's office, Descriptive card of public animals, edition of January 4, 1913, will be used for all public animals in the army, and the card for each animal will be kept up-to-date at all times."

How many such cards are up-to-date this minute? There probably is not half a dozen in the whole army If any person succeeds in complying with this order, and they should all be

made to do so, there will be little additional information the inspector will desire.

Alonzo Gray, Major, Inspector General.

A GOOD MARCH.

The Editor:

Vermont, to the Cavalry Camp of Instruction near Winchester, Virginia, and arrived in such good condition as to win the praise of the Camp Commander, Colonel C. H. Murray, Tweflth Cavalry. The regiment was on the road thirty-four days, four of which were spent in rest. The distance of 705.90 miles, therfore, was made in thirty marches averaging 23.53 miles.

Parts of five states and several ranges of mountains were crossed; most of the way the dust and heat were stifling, and several days the thermometer stood around 100 degrees. We left our post June 16th and finished the march July 19th. One horse died of colic, three were shot to prevent suffering, and eight were left in pastures en route. These casualties were mainly due to accidents.

The average age of the horses was 12.2 years and would have been considerably higher but for the presence of a number of very young animals, chiefly Morgans. These horses stood the march remarkably well.

"H" troop came through without a sore, and Troops "A" and "I" nearly as well. In the other troops the sores were uncommonly few.

What sores there were came from old setfasts of previous years. No new ones were developed.

Many of the horses are veterans and have served in many regiments. Some still carry the old hip brands of the Second and Third and other cavalry regiments. The oldest horse is twenty-three and the youngest five years old; but the young are in small numbers.

The actual time on march was divided evenly, as nearly as possible, between the trot and walk. Reveille was at 4:30 and the start at 6 A. M.

To lessen the effects of dust as well as to be able to trot on level ground, great latitude as to distances was given both to squadrons in the regiment and troops in squadrons. At the hourly halts, bridles were removed, cinchas loosened, grazing encouraged and saddles adjusted. Animals were watered on every possible occasion.

McClellan saddles were used.

The 138 mules came in as well as the horses.

J. C. Gresham, Colonel, Tenth Cavalry.

BREEDING ARMY REMOUNTS.

THE Bureau of Animal Industry has received reports from its officers in charge of the breeding of army remounts in coöperation with the War Department which show that the Governments' plan is very popular with the owners of mares. At the close of business on August 16, 1913, 41 stallions were in service. These stallions have covered 1,452 mares during the season, an average of slightly over 35 mares per stallion. Twenty-seven of the stallions were five years old or over, and covered 1,097 mares, an average of a little over 40; ten were four year olds and covered 292 mares, an average of better than 29 per head; four were three year olds and covered 63 mares, an average of more than 15.

The number of mares covered in Vermont and New Hampshire was 241, an average of over 34 for seven stallions, including 3 four year olds, and one three year old; 583 mares were bred in Virginia, an average of over 31 for 18 stallions, including 4 four year olds and 3 three year olds; 208 mares were bred in

West Virginia, an average of 52 for four stallions, including one four year old; 376 mares were bred in Kentucky, an average of better than 37 for ten stallions, including one four year old; in Tennessee, a mature stallion and a four year old covered 22 mares each.

The number of mares covered by mature stallions of different breeds were as follows: Three Morgans averaged 45 mares; ten Thoroughbreds averaged 38 mares; eight Standardbreds averaged 40 mares and six Saddle stallions averaged 42 mares. All ages by breeds are as follows: Seven Morgans (including 3 four year olds and one three year old) averaged 34 mares; fifteen Thoroughbreds (including 3 four year olds and 2 three year olds) averaged 32 mares; ten Standardbreds (including 2 four year olds) average 39 mares; and 9 saddle stallions (including 2 four year olds) average 39 mares; and 9 saddle stallions (including 2 four year olds) averaged 37 mares.

In placing these stallions, care was taken to select communities in which there was a scarcity of good stallions. Therefore, the mares bred during the past season, are, to a great extent, mares which would probably not have been bred in the absence of Government encouragement.

The number of mares bred in 1913 will be increased somewhat. In New England, breeding continues until October 1, and in Virginia the fall season is commonly used. Both conditions will operate to the advantage of the remount breeding work.

The Department is not able to draw any deductions as to the advantage of one breed above another. Local preferences were considered in placing stallions and no breeds placed in a community which were not wanted. Regardless of breed or locality, however, the desire of farmers to breed their horses to good sized stallions is noticeable. In almost every case where stallions have had a comparatively good season, it is because they were somewhat undersized.

Congress has provided for the continuation of the remount breeding work during the current fiscal year, but no considerable extension will be possible and no new breeding districts will be organized at present.

Office of Information, U.S. Department of Agricultre.

ENDURANCE RIDE.

A^N endurance ride will be held in Vermont on September 15th to 17th, 1913, under the following conditions:

ENTRIES.

This endurance ride will be free for all, and open to all horses of any breed. No entrance fee will be charged. All entries should be sent to C. C. Stillman, Secretary, The Morgan Horse Club, 165 Broadway, New York City, on or before September 1, 1913.

ROUTE.

Northfield to Waterbury	23 miles
Waterbury to Stowe	
Stowe to Morrisville	10 ''
Morrisville to Greensboro Bend	21 ''
Greensboro Bend to St. Johnsbury	28 ''
St. Johnsbury to White River Junction	
	154 ''

The above distances have been approximated only. The route has not been specially measured.

POINTS.

Condition on arrival at finish:	Excellent 50
	Good25
An average of six miles per hou	50
An average of five miles per ho	
An average of four miles per ho	
For each five pounds carried ov	ver 1602

CONDITIONS.

Total distance traveled must not be faster than six miles per hour, including all halts, nor slower than four miles per hour, including all halts.

The ride to terminate in front of the judges' stand State Fair Grounds any time between 11 A. M. and 4 P. M., September 17, 1913.

Each contestant to leave Northfield at any hour he may elect, provided he arrives at the destination within the time limit set, viz: Earliest hour for leaving Northfield is 8:30 p. m., Monday, September 15, 1913, and is determined by dividing the total distance by four and substracting this result from 11 A. m. of the date set for the termination of the ride. The latest hour of leaving is 2:20 p. m., Tuesday, September 16th, which will be determined in the same way, only using six for a divisor, and substracting result from 4 p. m. of the date set for the termination of the ride.

Each horse to carry not less than 60 pounds. Any kind of equipment.

Arrangements will be made for feeding and stabling horses at Waterbury, Stowe, Morrisville, Hardwick, Greensboro Bend, Summit, St. Johnsbury, Wells River, Bradford, Thetford, and the State Fair Grounds.

As soon as each horse arrives at the Fair Grounds the judges will inspect it, noting its condition and crediting it with the necessary points. The following day at 10 A. M. these horses will be again inspected, and if this last inspection warrants it, the points given for *condition* the previous day will be changed. All necessary information about stabling arrangements, etc., will be furnished later to the actual contestants.

PRIZES.

1st prize \$	100
2d prize	50
3d prize	25

In addition to these premiums, there will be given to each one of the first ten contestants who finish the Endurance Ride a small cup suitably engraved.

MILITARY RIDING.

(From the Broad Arrow of July 25, 1913.)

T a place like the International Horse Show at Olympia it is certainly a mistake that officers should take part who are not likely to do reasonably well in the competitions. Show jumping is an art in itself, an art that requires much practice and training, added to natural aptitude. A man may be able to hold his own over the stiffest line in England, may be able to steer a horse over the Grand National course, and vet not be able to do more than moderately in the show ring without long special training. It is a moot question whether there is much to be gained by show jumping, but there can be no doubt that to be successful, or anything near successful, at Olympia both man and horse must be exceptionally well trained. To shine the man must be an exceptionally good horseman in every respect, and his horse must have a natural aptitude for jumping, and they must be both specially trained in this particular line. It is all wrong for an officer of the British Army in uniform to enter the ring at an International show unless he and his horse have a reasonable chance of doing credit to that army in the task they are essaying. There are always men to be found who have ambition to shine in lines for which they have no aptitude and no real qualifications. In some ways this ambition may be very laudable, but when they are wearing the uniform of their army in an International show they are representatives of that army and should be restrained from making fools of themselves. The remedy seems to be in the hands of their commanding officers; they can very easily prevent officers entering for competitions at Olympia unless they are up to the proper standard. An International show is not a place for the army to be represented by any but the best. Our place is very good indeed, although up to now they have not quite succeeded in winning.

TELEGONY DISPROVED.

The Bureau of Animal Industry has recently obtained data confirming Ewart's classic work on telegony—the influence of a previous impregnation on subsequent progeny.

The registered Morgan mare Baby Gates, bred by the Department, was bred for the first time to a Grevy zebra by artificial impregnation. She foaled a female hybrid on June 2, 1912. At the first period of heat she was bred to the registered Morgan stallion, Pat Murphy, and on May 14, 1913, foaled a filly which is an excellent individual of the breed and absolutely free from any markings or other characteristics of the zebra. Ewart's investigations with the Burchell zebra gave the same results.

Farmers therefore need not hesitate to breed their mares to a jack for fear that the mare will become "saturated" or "impregnated" so that subsequent progeny by a stallion will show the characteristics of the jack. Although the Bureau has made no experiments on this subject with other animals it is very doubtful whether telegony occurs in any species of animals. In animals which give birth to more than one offspring at a time, it is possible for the characters of more than one male to appear in different individuals. For example, if a Berkshire sow is bred to a Duroc-Jersey boar and Chester White boar in the same period of heat, some of the resulting pigs will probably be red in color and others white.

Only one spermatazoon is required to fertilize one ovum. Where several ova (eggs) are given off at each period of heat, as is the case with sows, it is possible for a sow to give birth to such a litter, when bred in this way. The same probably is true of bitches, cats and similar animals.

Three cases have been noted this year where mares have foaled twins, one a horse foal and the other a mule. The mares were bred to a stallion and a jack during the same period of heat. Supposed cases of telegony will usually be found to be die to promiscuous service or to a reversion to some remote ancestor.

UNIVERSAL POLO AT PANAMA-PACIFIC INTERNATIONAL EXPOSITION.

(International Cavalry Contests and Army Remount Demonstrations also a Feature. Will Demonstrate what Constitutes Best Cavalry Horse.)

UNIVERSAL Polo will be the opening feature incident to the Department of Live Stock at the Panama-Pacific International Exposition.

There will be many stables on the site, and the race track infield will afford an ideal location for polo grounds.

Polo enthusiasm is spreading all over the world, and it is proposed to have ten or fifteen days of polo beginning with the opening day of the Exposition.

A series of elimination matches will be arranged and because of elimatic advantages a number of the established teams will winter their ponies in California.

"It is not generally known that three California ponies were used in the recent international match at Meadow Brook," said D. O. Lively, Chief of the Live Stock Department, "two on the American and one on the English side. These ponies were in at the finish, and their general excellence attracted much attention to California as a polo breeding ground. The hills and dry air of this state are especially conductive to breeding for wind, nerve and action, and California can be counted on to supply a large part of the constantly growing demand for first quality polo ponies. An expert has agreed to supervise the maturing of the field, the location of which is ideal.

"We will have a grandstand which will seat 18,000 and its capacity will be taxed during the great tournament which will be held on the Exposition grounds.

"The question of cups and prizes is now being considered. If the Hurlinham cup still remains in this country it is possible that the International Polo Match can be held at San Francisco. That of course is a question which can only be decided by time, but in any event representative teams from many countries will be attracted to a universal meet at San Francisco in 1915.

"The International Cavalry Contest would come at a later date, but between polo and the army remount demonstration there should not only be attracted to the Exposition a great many visitors, but the lessons derived therefrom will show to the world at large what constitutes a horse suitable for cavalry

purposes.

"Polo is being played with larger sized horses these days, and a number of experts declare that a horse suitable for polo is an ideal army remount. Be that as it may as the result of the universal polo meeting and an international cavalry contest to which will be added the saddle horse futurity, harness races and the utility or draft horse competitions, the horse will receive due recognition at San Francisco in 1915."

THE SELECTION BOARD.

(From the Broad Arrow, July 11, 1913).

O long as a man's fitness for employment depends wholly upon the opinion of a Board of General Officers, to many of whom it is unlikely that he is personally known by name or even by professional reputation, it is, of course, inevitable that there must be a certain amount of criticism of the action of the selecting body, and even a good deal of fairly legitimate complaint. These "growls" find expression from time to time in the columns of such papers as take any real interest in military matters, and the decisions of the Selection Board come in for such criticism as cannot reasonably be resented and is certainly anything but unhealthy.

It has lately been pointed out that there is good reason for remarking upon the somewhat in-an-out selection apparent in a recent *Gazette*, whereby an officer was lately passed over for promotion from Colonel to Major-General when an appointment carrying the latter rank and for which he was specially fitted fell vacant, only to be later promoted over the heads of many of his seniors, for some purpose which was not very obvious, and in a manner which conveyed an impression—probably a wholly false one—that this particular promotion was an afterthought, due to strong representations in the officer's favor.

In another case an officer was suddenly promoted, out of his turn and again over the heads of many seniors, avowedly to save him from being run out for age. It is not suggested by anybody that this officer is not worth saving, though no doubt his employment at the psychological moment at the War office gave him just the chance denied to others, possibly of at least equal merit, who may be serving their country further afield. It has been proposed, and the proposal seems one worthy of consideration, that some modification in the terms of the Royal Warrant governing promotions seems to be called for, and that the Selection Board ought to have the power of recommending a colonel for temporary higher rank, rendering the age clause in in his case inoperative, the temporary Major-General thus falling automatically into the next vacancy without superseding anybody.



Fredericksburg and
Chancellorsville*

The preface of this work, Colonel Gough the author, informs us that the book is an attempt to follow these two camapigns from the Federal point of view. He hopes that this study will in part, at least, supplement Colonel Henderson's "Life of Stonewall Jackson," since he considers that, in the latter work, the Confederate point of view is necessarily predominant.

The author does not claim by any means to have exhausted his subject, nor has he. As to his sources, he tells us that he has found his data mainly in the "Rebellion Records," "The Story of the Civil War," by Ropes, and "The Campaign of Chancellorsville" by Bigelow. It will thus be seen that his work is based on solid foundations.

The author comments on McClellan's mysterious and inexplicable popularity with the rank and file of the army. He considers it a serious error to have relieved that General from command in the very presence of the enemy and at a moment when a great battle was imminent in order to put a

^{*}FREDERICKSBURG AND CHANCELLORSVILLE, A Study of the Federal Operations." By Colonel J. E. Gough, V. C., C. M. G., with an Introduction by Brigadier General H. H. Wilson, C. B., D. S. O. Hugh Rees, Ltd. London, 1913. Price 6 shillings, net.

man like Burnside in his place. The evil effects of changing the organization of the army in the midst of a campaign, as did Burnsides, is clearly pointed out; as is also the unwieldiness and unsuitability of the forming of the army into three Grand Divisions. The slowness of both Burnside and Hooker is freely commented upon. He considers that neither had good excuses for this. The Battle of Fredericksburg is pictured as a series of disjointed and unsupported attacks in which infantry not only attacked without artillery support, but also one division or one corps at a time, while the rest of the army looked on as interested spectators. Burnside's artillery on Stafford Heights was well posted to assist in forcing a crossing of the river and in covering the retreat, which later became necessary, but it gave absolutely no support to the infantry attacks.

The author notes that the principles involved in the placing of the Confederate trenches at the foot of Marye's Heights were the same that were invoked by the Boer's later on in the South African War on a number of fields. These trenches which caused the English such surprise and consternation when first encountered might have been learned about from a study of the Fredericksburg campaign. The author points out clearly the fatal effects resulting from the improper use of cavalry by both Burnside and Hooker. The latter improved some on Burnside's methods, but he spoiled his campaign by sending his cavalry away on a useless raid at the critical time.

Colonel Gough thinks that some excuses should be made for Burnside, during the time he commanded the army, because he did not want the command, protested against its being given to him, and was not served loyally by his subordinate commanders. The Army of the Potomac had lost thousands of men in useless slaughter at Fredericksburg but it was not long after Hooker took command until the morale improved greatly. Hooker was somewhat slow in stepping off, but when he did, all thought that the hour for decisive action had come and all welcomed it with enthusiasm.

The author shows us some interesting side lights on the part which politics in general and the Halleck brand of strategy in particular played during the months of March and April,

1863, in Hooker's attempts to get the campaign started. Colonel Gough points out how completely Hooker failed after having gained the wonderful initial success of placing four corps in the vicinity of Chancellorsville. These four corps made a force superior in strength to Lee's whole army, yet Hooker at 1 p. m., May 1st, ordered them to desist from their attack and fall back. From that time on, until his army was again safe on the north side of the river he never issued an order without an "if" in it. He seems to have been under a spell to do the wrong thing. His action in this campaign is sufficient reason alone, to justify paragraph 78 of our Field Service Regulations (1910).

The author evidently joins hands with a number of Union Generals in considering Mosby a guerrilla. Colonel Gough calls attention to the danger of night attacks in close country, citing as an instance, the battle during the night of May 2d-3d between part of Birney's Division of the Third Corps and the left of the Twelfth Corps. These friendly troops fought each other for some time. The losses were few but the morale of both Corps was terribly shaken. The book is of excellent print and contains very good maps.

To any one desiring a short account of these campaigns bringing out the salient features, this book is recommended.

N. F. M.

The Rasp.* This, the second of the Annuals of the Mounted Service School at Fort Riley is a large book— $3\frac{1}{4}$ " by $10\frac{1}{2}$ "—of nearly 350 pages. It is a handsome work, printed on heavy calendered paper and beautifully illustrated with over 360 half-tone cuts. These cuts not only well and fully illustrate the work done at the Mounted Service School and the mounts used thereat, but also shows the mounts of officers, typical chargers, as well as illustrating the

[&]quot;The Rasp." Mounted Service School, U. S. Army. Fort Riley, Kansas, 1913. Published by the Class of 1913. Lieutenent C. F. Goetz, Business Manager. Price \$2.00.

equitation work being done at other stations, polo teams, etc., etc. The half-tone cuts were made by the Teachenor-Bart-berger Engraving Company, of Kansas City, that well known firm that has furnished the half-tone and line work for the CAVALRY JOURNAL and Army Service Schools for so many years.

The first part of the book—twenty-seven pages—is devoted to a general account of the year's work of the Class of 1913 in the Department of Equitation. This is followed by about seventy pages giving the daily diary of the equitation work of the several classes from October 1, 1912, to May 31, 1913. These several classes are: First Training Class; Schooled Class; Jumper Class; Second Training Class; and the Breaking Class. There is also given the diary of the work in stable management to which about a month is devoted.

There is a well illustrated description of the work of the department of horseshoeing and hyppology, which is followed by an account of the instruction given under the head of Explosives and Demolitions.

The Field Officers' Course, for both the autumn and spring classes is fully described and the daily diary of their work given in detail. To the older officers of our cavalry service, this part of the book will prove extremely interesting as it not only shows what these "old men" did there and what those who follow them at the School may expect. They certainly had no picnic while there and the "Roll of Honor" indicates that they took a fair share of the falls. It is believed that this course for Field Officers, although very short, as it is necessarily, is of the greatest importance to our cavalry service, if it is hoped to thoroughly disseminate throughout the service, the prescribed Fort Riley methods of instruction in equitation. The influence, advice and example of these older officers will be more graciously received on their return to their respective regiments than will that of the younger graduates, although the latter may be and probably are more finished and accomplished riders under this system. Of course, if these young graduates of the Fort Riley School are tactful and rub their colonels and other older officers the right way, their influence in developing these prescribed modern methods in the regimental equitation work will also be of great assistance.

The above mentioned "Roll of Honor" reports an even one hundred instances of student officers having been "policed" during the year. Several of the names appear two or more times, the champion having been dumped ten times. In case the old custom of setting up the champagne when thrown prevails at the Mounted Service Schools, several of the student officers must have left there as bankrupts

A very interesting and instructive part of the work is included in the thirty-three pages devoted to the subjects of "The Methods of the Mounted Service School Applied to the Enlisted Man and the Service Mount" and "Jumping and Cross Country Riding" by Captain Henry and Lieutenant Chaffee, respectively both of which are instructively illustrated.

The other sub-heads of the various subjects discussed in the book are as follows:

The care of leather equipment by Captain Edward Davis. Notes on European Cavalry by General James Parker.

Serving with a regiment of French Cavalry by Captain Hawkins.

Recruit and remount instruction in a German Cavalry Regiment by Captain Whitehead.

Hints on Hanover by Lieutenant H. W. Wagner.

Value of Racing, steeplechasing, polo and the contests of the show ring in the training of the mounted service, especially in the training of the young officer, by Colonel Greble.

Polo in the Philippine Islands by Governor General W. Cameron Forbes.

The Manila Polo Club by Lieutenant S. C. Reynolds.

The Regimental Hunt Club by Lieutenant Colonel Morgan. International Contest from *Bit and Spur*.

American officers in the riding competitions, Stockholm, Sweden, by Captain Ben Lear.

Jumping competitions in the Eleventh Cavalry.

Riding instruction on the Mexican border by Lieutenant Merchant.

The concluding part of the book gives a report of the work of the experimental squadron at Fort Huachuca a synopsis of which appeared in the last number of the CAVALRY JOURNAL.

As a whole this book does great credit to those in charge of its publication and it is one that should be in the hands of every cavalry officer in our service. The only criticism that we have to offer as to the entire makeup of the work is that the type used was too small. It is very hard for old eyes to read and especially so as it is printed on such highly calendered paper.

E. B. F.

This is a small volume—41/4" by 51/2"—
by Captain J. N. Pickering, U. S. Infantry,
who has been for some years on duty at the
School of Musketry.

The scheme of instruction now in force in the army contemplates a fairly extensive course of tactical training, both theoretical and practical, in the non-commissioned officers' schools, the garrison schools, in the Post Graduate courses, in the Army Service Schools, in field maneuvers, etc., all leading up to the fire fight conducted mainly with the rifle. While the cavalry will not perhaps always depend on the rifle, yet it will do so frequently and in all cases upon its use mainly will depend the result of the battle.

If matters are at all evenly balanced otherwise, the best tactical handling of cavalry, artillery and infantry may go for naught if the fire effect of the rifle is not developed to its maximum. This is the important lesson that every man and officer of the rifle bearing branches of the service should keep constantly in mind and which a careful reading of this book will teach.

The first one hundred pages treats of the rifle, or the musket if one perfers to so call it, as a machine, of its care and preservation and of the tests to determine its reliability. Much of this may be found elsewhere and it is probable that the book would not have been written for this alone. However, a logically complete treatment of the subject required this preliminary discussion and while many of our officers will find little that is new in this part, yet many will find valuable suggestions here.

[&]quot;MUSKETRY TRAINING." By Captain J. N. Pickering, U. S. Infantry. 1912. Price \$1.50, or \$15.00 per dozen.

The following seventy-five pages will be found, by the average officer, the most interesting and the most important part of the book. It covers the several subjects of Rate of Fire; Estimating Distances; Description of Locations; Using the Field Glass; Ajustment of Fire; Influence of Ground on Fire Effect; Combat Firing; and Commanding.

The rate of fire is treated in the light of experience gained at the School of Musketry and under conditions which the officer serving with troops connot duplicate. The prescribed course of rifle fire and the allowance of ammunition do not give sufficient latitude for such experiments, nor is it necessary that they should. Carefully conducted experiments made at the school can furnish us with more reliable data and which we can accept with more confidence than we could our own average results. The thing is to get these results into the hands of the personnel of the army and to get them interested in the subject. The results are here given as well as the author's thoughtful discussion of them.

To the average officer nothing is more tiresome than giving instruction in estimating distances and many shirk it whenever possible. A casual reading of the chapter on this subject will bring home to him, however, the absolute necessity for accuracy in estimating or obtaining the distance, and will show how it must go hand in hand with improved individual markmanship.

It is believed that "descriptions and locations" and "adjustment of fire" are incidents of commanding but certainly each of these sujects are worthy of a separate chapter.

The subject of the effect of ground slopes belongs perhaps more to that of the tactical handling of troops than to that of musketry training, but, as the author says, there is no distinct line of demarcation between them and here is the place where they merge.

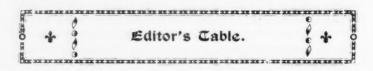
The chapter on combat firing will be found especially valuable to those called upon to devise problems of this sort and to the company officers in training themselves and their commands for actual firing exercises. Having taught the lesson of the extreme necessity for working the rifle to its maximum effect, the author goes on to show where, how and when the

training should be done, who should do it, and gives valuable suggestions as to ways and means.

No company officer can read this book without an increased sense of his responsibility for the result of the fire fight and a realization that this important element of success in battle can and should be learned by painstaking and intelligent work with his company or platoon and requires no detached service in attendance at any school.

It is practical a work on a subject which should receive daily attention and it is based on extended practical experience. The service is indebted to Captain Pickering for putting the results of his years of labor and thought at the School of Musketry in shape for ready assimilation by those not so fortunate.





BRIGADE POSTS.

Now that the Secretary of War has completed his inspection of nearly all the larger garrisons of the country, it is presumed that he will be prepared very soon to outline his policy as regards the concentration of the forces of the mobile army into posts of not less than a brigade each and will make his recommendations to Congress accordingly. According to the press reports he has been besieged by the representative citizens of the adjoining city or town of every large garrison for information as to his intentions regarding the retention or abandonment of that particular post and has been given advice galore as to the merits of that location for its being retained or even increased and made more important. It is understood that the Secretary will favor having at least four large garrisons but nothing is known as to the location or size of these proposed posts.

It can be and has been shown that larger garrisons are in the interest of economy, certainly in the long run, and that the money saved in the upkeep, in walks, roads, sewers, in water supply, etc., etc., would in a few years pay for the construction of the larger posts. However, the main point and the one that the mobile army is most interested in is that of the opportunities that these brigade or division posts will offer for the instruction of troops, their better training in all that fits them for service in war.

It is very well to recommend and to show the advantages of having these brigade posts but it is another thing to induce Congress to see it in the same light and to furnish the necessary appropriations for their construction. One of our prominent cavalry officers refers to this question in a letter recently received as follows:

"Collective instruction is favored by concentration, though it is to be doubted if this or any other military reason were really the moving cause leading to the enactment of the legislation creating a cavalry brigade post at Chickamauga Park. So far, this act, carrying with it no appropriation, is like the play of Hamlet with the title role omitted. Many military reasons exist for such a post—climate permitting year around out-of-door instruction and training, large available maneuvering area, diversified terrain, central location, railroad transportation, etc. This is also a location for one of the postsin the concentrated distribution of the mobile army as recently recommended by the Secretary of War to Congress. Now that the post has been authorized it is to be hoped that those interested in its political fortunes will push the matter to its logical consumation.

"Just where the additional cavalry regiment for this post is to come from cannot at present be forseen. Other localities may be expected to protest against withdrawing troops from their vicinity to build up this one. The creation of brigade posts is thus seen to be an antidote for suggested cavalry reduction."

It is to be regretted that this scheme of having brigade posts had not been agitated and carried forward to a logical conclusion some twenty or twenty-five years ago at the time when our frontier posts, being no longer required for the purpose for which they were created, were being abandoned and the several posts near the large cities were built. Then, however, the army thought it was a great step in advance to have regimental garrisons and but few army officers had ever seen one.

Now that these regimental posts are established with the necessary quarters near many of the larger cities, it will be extremely difficult to convince Congress that they should be abandoned and others built elsewhere. The delegations from every state that has one or more of such garrisons will fight long and hard for their retention. For these reasons it is

believed that there is very little hope for having brigade posts in the near future. However, it will do no harm to keep up the agitation which may at least prevent the building on any more small posts and may lead to the much to be desired result of obtaining brigade posts at some time in the dim and distant future.

A CARBINE.

It has been learned from no less an authority than that of the Chief of Staff of the Army that experiments have been made in the line of producing a satisfactory carbine for our cavalry to replace the altogether too heavy rifle. It is said that this new firearm has a shorter barrel by four inches and weighs two pounds less than the present service rifle, and this without sacrificing any of its ballistic qualities.

The bugbear of the cavalry having a firearm that was inferior to that in the hands of any enemy that it was liable to encounter, induced us to adopt the same rifle as that with which our infantry was armed and has prevented our returning to a carbine. While it is possibly true that the inferiority of the carbine, small as it was, might effect the morale of untrained cavalrymen, yet it is not believed but what our cavalry, by proper training and instruction, could be convinced that the small difference—four per cent or less—in the ballistic properties of the two arms would entirely disappear on the field of battle. A proper course of instruction in field firing would have demonstrated that this small difference would have been practically eliminated there, and that in firing on an enemy the superiority of the rifle would be infinitesimal.

However, it is of course much better to have an arm as perfect as that carried by other troops and it is certainly to be hoped that the above mentioned experimentations may prove successful. Then the solution of the problem of how to carry our cavalry firearm could be easily solved and our poor cavalry horse be relieved of some of the excess weight that they are now

compelled to carry. Nor only that but it will then be possible to remove the carbine from the saddle entirely and thereby rid the horse of this ten pound hammering weight that has caused more sore backs than all other causes combined.

THE ARMY LEAGUE.

A year or more ago a movement was inaugurated towards establishing an Army League, along the lines of the Navy League that has accomplished so much in creating a sentiment in favor of a larger navy. At that time we received from one of our active and progressive members a letter on this subject from which we quote:

"You have undoubtedly seen notices in the various daily and weekly papers of a meeting in Washington at which was discussed the question of organizing an Army League. The object of the League is to arouse public interest in the army. The idea was probably suggested by the existence and work of the Navy League of the United States and the similar organization in Germany, both of which are accredited with having largely aroused public sentiment in favor of a larger and more efficient navy.

"The idea of the Army League is good and it is suggested that the Cavalry Association would do well to take official cognizance of the organization and make mention of it in the Cavalry Journal, etc.

"It is recognized that the Army League should be broad in its scope, considering the interests of the service as a whole and not advancing those of any arm in particular. On the other hand, in order that the organization may be led to give due consideration to the needs of all arms, there should be among its prominent members men who understand these varying needs. An attempt should be made to interest in the organization of the League men of national standing who have had eavalry affiliations."

Owing to larger interests along other lines regarding the welfare of the cavalry arm, this question was overlooked for a time, important as it was, and finally, as the proposition to organize such a League had dropped out of mind, no further attention was paid to it.

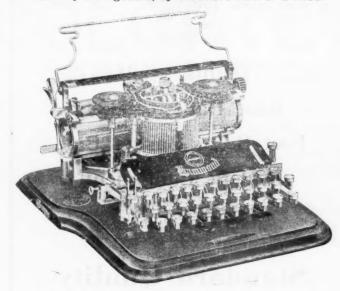
It appears that little progress was made in promoting this scheme and nothing has been heard of it for the last several months.

Now, however, the new Secretary of War has revived interest in the matter and has made it the prominent feature of his talks to the several Commercial Clubs, etc., by whom he was entertained on his recent tour of inspection throughout the country. While at Fort Leavenworth, in his address to the student officers, he outlined his ideas and plans relating to this subject and stated that he proposed to follow up the matter and to keep in touch with the prominent gentlemen that he had met on his tour and who seemed interested in it.

With such influence backing this measure, there should be no difficulty in arousing interest in it and in establishing branch leagues in every one of the larger cities of the country, especially in those not situated on the coast where they are naturally more interested in the navy and in coast defenses. However, even this should not prevent the really patriotic citizens from belonging to both leagues as they both have a common interest in the welfare of the country.

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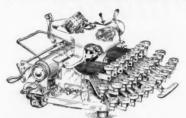
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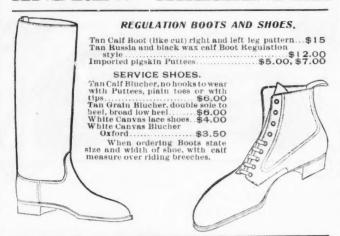
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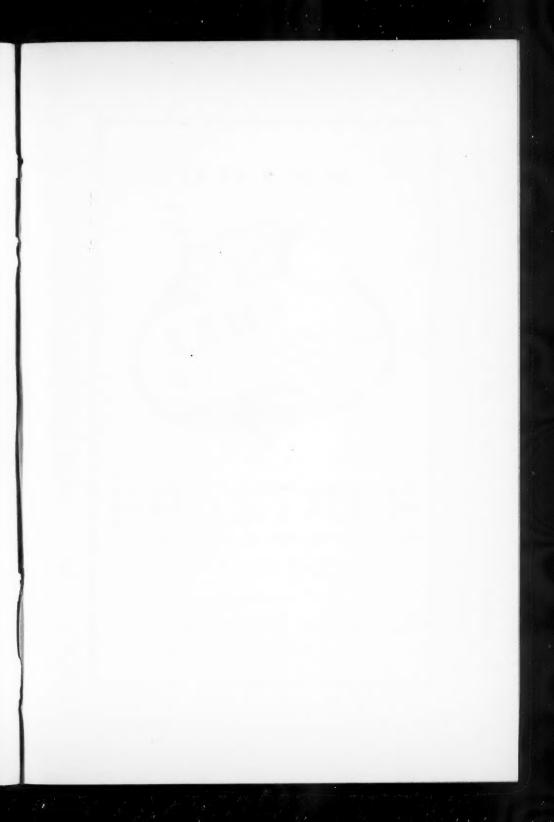
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